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Research
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ARMY RD&A

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Competencies of project managers, streamlining efforts related to the PEO structure, and a photo feature of the Army's PMs are featured highlights of this issue of Army RD&A.

PROJECT MANAGERS AS LEADERS

Competencies of Top Performers

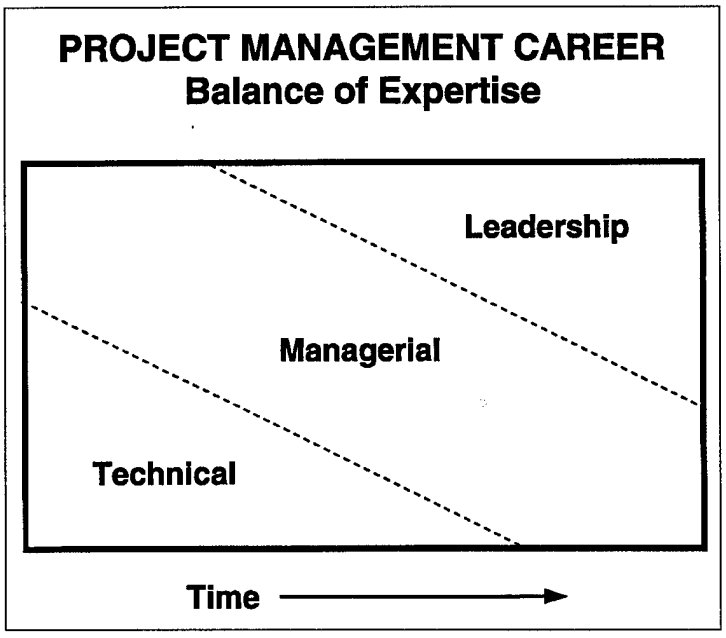
By Dr. Owen C. Gadeken

Introduction

The traditional view of project management has emphasized both the technical and management expertise required of project managers. After all,the perceived challenge of Defense acquisition has been to integrate state-of-the-art technology into workable systems in the field. However, an emerging view in the project management community is that while technical and management expertise are important, the primary role of project managers is to provide a leadership focus on their projects. This is becoming even more clear as current project managers are forced to cope simultaneously with reorganization,downsizing,budget cuts, and acquisition reform initiatives. (Note: In this artide, I will use project manager to collectively include project, program and product managers.)

Many project managers fail to recognize the shifting role demands over their careers. This role evolution toward leadership is depicted in Figure 1. The shifts between the dashed lines from technical to managerial and then to leadership are actually quite dramatic and call for significant new skills development.The underlying question to be addressed in this article is what are the specific leadership skills required of project managers.

Figure 1.



The nature of the leadership challenge facing Defense project managers has been extensively researched by the Defense Systems Management College (DSMC) along with other Defense Acquisition University schools. This article summarizes the results of four separate research studies conducted from 1990 to 1994: two by DSMC, one by the Air Force Institute ofTechnology (AFIT), and one by the Naval Post Graduate School (NPGS). These studies were based on the premise that the best way to find out what it takes to be a good project manager is to analyze a current group of outstanding project managers and identify what they do that makes them so effective. The four research studies involved both surveys and in-depth interviews of a broad cross-section of project managers as illustrated in Figure 2.

This article uses the research findings to focus on four key areas which must be considered in developing future project managers: (1) defining project manager competency requirements, (2) selecting the best project manager candidates, (3) assessing critical project manager competencies, and (4) methods of developing these competencies.

The Competency Approach

Any job can be considered from two perspectives: tasks and competencies. Tasks are characteristic of the job itself. Tasks usually are defined as the minimum or threshold requirements for effective performance. By contrast, competencies are characteristics of the person. They describe what the person brings to the job that allows him or her to do the job in an outstanding way. Competencies may include motives, traits, aptitudes, knowledge, or skills. For any given job, competencies are what superior performers do more often and more completely to achieve superior results. (Note: Use of the term "competencies"in this article is that common to industry. The military would refer to these "competencies"as "traits" or "attributes.")

A systematic approach to developing project managers should consider both job tasks and personal competencies (see Figure 3. Note: Figures 3, 6, and 7 are provided courtesy of Cambria Consulting in Boston, MA.). The inclusion of the competency dimension pushes beyond the minimum job requirements to what makes for superior performance.

DSMC selected the competency-based approach rather than traditional methods like task analysis and expert panels because of the complexity and variety of project manager jobs in the Defense acquisition process. The more complex the job, the more important it is to study what each project manager brings to the job that results in outstanding performance.

As an example, consider the difference between a capable pilot and a fighter ace. The basic skills of flying could be considered of moderate complexity on the Figure 3 diagram and are probably amenable to a task-analysis approach. On the other hand, a fighter ace or "top-gun" pilot would be difficult to characterize based on tasks alone. This is especially true if you were interested in what differentiates the ace from the other capable pilots in the squadron. This is where competency analysis is of most value. Clearly, a project manager's job is on the right of the complexity scale in Figure 3 along with the fighter ace and, therefore, is also most appropriate for competency analysis.

Using critical incident interviews and detailed follow-up surveys, the job competency research process gets beneath espoused theories about what it takes to do a job,to what the best performers actually do. Past studies have shown that job experts are often wrong in their assumptions about what it takes to do a job well. Even the top performers themselves are often unaware ("unconsciously competent") of what they do that makes them so effective. An interesting example which illustrates this point can be found in the August 1988 issue of Training magazine. Two researchers interviewed the late college football coach Paul "Bear" Bryant at the University of Alabama and asked what he did that made him such a great coach. Instead of immediately writing up the findings from their interview notes, the researchers stayed on for several days and actually observed coach Bryant in practice sessions and during games. What they found was that coach Bryant didn't actually do most of the things he alluded to in the interviews. They discovered other "new" behaviors such as detailed observation of player performance and immediate feedback which really accounted for coach Bryant's success. As the article states, "exemplary performers differ very little from average ones, but that the differences are enormously valuable."

The research process has several benefits. It distinguishes the competencies of outstanding project managers from their contemporaries. The research focuses on the critical few competencies that make the most difference in job performance. The competencies are defined in terms of observable job-related behavior rather than abstract concepts. The resulting job competency model serves as an excellent communication tool and training model to move organizations toward their goal of creating a cadre of top flight project managers.

Project Manager Competencies

With the 1990 DSMC research study as a model, the subsequent research studies found a common set of leadership competencies with some variation in rank order.

Defense Project Manager Research Studies

Year Completed	Conducted By	Target Population	Project Size	Project Managers Interviewed	Project Managers Surveyed
1990	DSMC	US All Services	Major & Small	50	128[a]
1991	DSMC	UK All Services	Major	15	111
1991	AFIT	US All Services	Major	-	53
1994	NPGS	US Army	Major	7	25[b]

[a] Also surveyed 225 functional managers and 161 DSMC students

[b] Also surveyed 12 project management executives and 140 DSMC and NPGS students

Figure 2.

Figure 3.

The DSMC study of United Kingdom (UK) Defense project managers validated these same competencies, with UK project managers favoring more of the analytical rather than interpersonal skills. Several underlying themes emerged from the set of competencies found in the research. These themes are listed in Figure 4 and discussed below along with selected quotes from the project managers interviews.

Top ranked project managers are first and foremost mission focused and results oriented. They take personal ownership of their projects in a manner almost approaching the quest of a medieval knight going off to the crusades. They model their personal commitment with such dedication and enthusiasm that it permeates their project team, external customers,and support organizations. In the words of one Army project manager: I felt frustrated. But at the same time I feel like it is such good thing we are doing for the Army that it is worth all the frustration and hard work and whatever else we need to do to make it successful.

Outstanding project managers are both systematic and innovative thinkers. They understand the complex and rapidly changing environment in which they must work. Further, they are able to see through this complexity to provide a structure for sound decision making as well as a point of departure for more innovative solution options. In the words of Admiral Carlisle Trost, a former Chief of Naval Operations: Figuring out what is going on in a complex world is the heart of leadership. Otherwise leaders are defeated by events they do not understand.

The best project managers interpret events from a big picture (mission) perspective with an eye toward future consequences of immediate decisions. As this Navy project manager put it: We were heading to a point where, although it was years away from happening, things would start to diverge. But action needed to be taken right then and there, so that...we would have enough canisters to go around and support the missile base. That was the driving factor in what I was doing.

Successful project managers are masters of working with and through others. They focus their efforts on finding the best people for their project team and then let them handle the myriad of decisions and details that epitomize even the most basic projects. An Air Force project manager stated: The first thing you do is get the right people. My contractors have made an observation. They told me I don't have many people here but the ones I've got are terrific. And, that's exactly the way they were picked.

Effective project managers do not try to do everything themselves. They typically focus on a few strategically important areas, leaving the mass of administrative and technical matters to subordinates. This is most clearly illustrated in the DSMC research interviews which focused on critical incidents selected by the project managers. Of the 285 critical incidents, over half were concentrated in just four functional areas: contracting (62), personnel management (42), test and evaluation (31), and acquisition strategy (i.e., project planning) (26).

While outstanding project managers craft effective project teams, they also spend considerable time networking with external customers and support organizations. The number of external stakeholders who can potentially impact a project is huge. Thus,the project managers must determine who the key players are and what is important to them. Since project managers have no formal power over these external stakeholders,they must rely on their ability to cultivate relationships and use influence strategies to achieve their objectives. To reverse a potentially devastating budget cut,this Army project manager knew who to involve,at what point and why: I finally recognized that I needed heavy hitters with more influence and authority than I had, so I set up a meeting with the program executive office, the head of procurement, my staff, an attorney advisor, and the Army's contract policy expert. In other words, I had to go in there and literally stack the deck in terms of influence and independent representatives who would vouch for what I had said.

Finally, the best project managers constantly probe for information and push for results as illustrated in the following quotes: At this meeting, I asked the contractor what they knew about the subcontractor status. You know, where precisely are they? What are their plans to do this? With each answer, I would just ask one question, I would just ask one question deeper than that. When they started to stutter, I knew they were in trouble because I shouldn't be able to go that one level deeper and ask a question they can't answer; Everything you do [as a project manager] has got to be focused on results, results, results.

An interesting finding from the DSMC study emerged from the comparison of importance rankings of the competencies by project managers with ranking from other acquisition professionals (functional managers from different specialty areas such as contracting, budgeting,engineering, and logistics). This comparison is illustrated in Figure 5. It is clear that there are some significant differences in the competency rankings between the two groups (as noted by the arrows between the columns). The acquisition professionals (functional managers) considered technical expertise,attention to detail, and creativity (defined as developing novel technical solutions) as far more important than did project managers.

On the other hand, project managers rated sense of ownership/mission, political awareness, and strategic influence much higher than functional managers. An underlying issue emerges from the difference in competency requirements for project managers and functional specialists: the transition from functional specialist to project manager may be conceptually quite difficult. A review of the literature supports this conclusion, especially for scientists and engineers who currently make up the bulk of Defense project managers.

Project Manager Selection

Selection of U.S. Defense project managers is currently conducted by special

THE BEST PROJECT MANAGERS

- **Are strongly committed to their mission**
- **Have a long term and big picture perspective**
- **Are both systematic and innovative thinkers**
- **Find and empower the best people for their project team**
- **Are selective in their involvement in project issues**
- **Focus heavily on external stakeholders**
- **Thrive on relationships and influence**
- **Proactively gather information and insist on results**

Figure 4.

panels in the military Services. Although future potential is considered, most of the evaluation is of necessity, based on the candidates' performance in their prior jobs. Project manager candidates are given in-depth training (three courses totaling 20 weeks as a minimum) covering project management functional disciplines. The assumption here is that these project managers have already acquired the necessary leadership and management competencies through their prior work and supervisory experience. This assumption appears to be flawed based on the conclusion made earlier in this article that there are several unique project manager competencies not normally developed by more junior project management professionals.

An alternate selection approach would be to use the current selection process based on knowledge and experience but then train the project manager candidates in the critical leadership and management competencies. While this approach appears attractive, it ignores basic limitations of the training process (Figure 6). Specialized knowledge can easily be imparted in a training environment even under time constraints (a few days). However, leadership and management competencies are by their nature complex and are generally developed only with time and experience perhaps over an entire career.

Thus, the preferred alternative for project manager selection is to assess which candidates have or can more readily develop the critical leadership and management competencies. Training can then be provided or tailored in project management functional disciplines (knowledge areas) to augment the candidates' prior knowledge and experience base. This training is much more likely to succeed than a training program to develop critical leadership and management competencies in candidates lacking such skills.

A project manager selection process focused on the critical leadership competencies should have a multiplier effect on project results over time as illustrated in Figure 7. Although candidates possessing the critical personal competencies (but lacking experience) may start off as less productive, they will rapidly overtake their less competent but more experienced counterparts in the organization. The main question then becomes how to assess which candidates have or can more readily develop the critical project management competencies.

Competency Assessment

Assessing project manager candidates' ability to perform critical management and leadership skills is a difficult proposition. This is due in part to the fact that many of these competencies were not required to a great degree in candidates' prior jobs. However, assessment techniques have emerged in recent years which are quite useful.

SURVEY VALIDATION OF PM COMPETENCIES

Note: Identical numbers (i.e., 10, 10) denote tie scores.

Competencies	RANK ORDER OF IMPORTANCE: Program Managers (N = 128)	Other Acq. Professionals (N = 225)
SENSE OF OWNERSHIP/MISSION	1	17
LONG-TERM PERSPECTIVE	2	6
MANAGERIAL ORIENTATION	3	2
POLITICAL AWARENESS	4	21
OPTIMIZING	5	5
RESULTS ORIENTATION	6	8
SYSTEMATIC THINKING	7	3
INNOVATIVENESS/INITIATIVE	8	11
FOCUS ON EXCELLENCE	9	9
ACTION ORIENTATION	10	10
RELATIONSHIP DEVELOPMENT	10	14
coaches others	12	12
PROACTIVE INFORMATION GATHERING	13	15
STRATEGIC INFLUENCE	14	23
creativity	15	3
self control	15	13
INTERPERSONAL ASSESSMENT	17	18
collaborative influence	18	16
CRITICAL INQUIRY	18	24
positive expectations	20	24
technical expertise	21	1
interpersonal sensitivity	22	22
attention to detail	22	7
ASSERTIVENESS	24	20
efficiency orientation	25	18
directive influence	26	26
competitiveness	27	27

Figure 5.

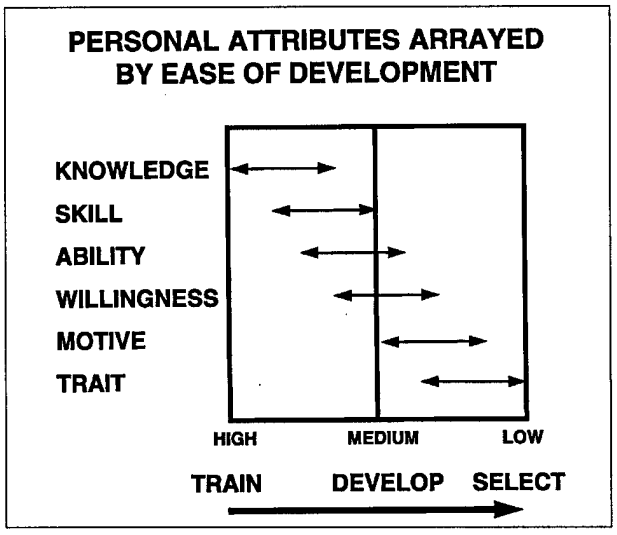


Figure 6.

Tailored survey assessment instruments can be created and given to candidates' prior supervisors,peers,and subordinates asking for their assessment of the candidates' past performance and future potential in each of the project manager competency areas. This "360 degree feedback" (from above, at the same level, and below in the organization) has rapidly gained momentum in both U.S. public and private sector organizations. Several commercially-developed multi-rater instruments are now available. Most feature computer scoring, automated feedback (report) generation,and even tailoring of items to fit the individuals and organization using the instruments.

Another useful method is the critical incident interview process used in DSMC's competency research. Here, the project manager candidate is asked to recount several significant prior job situations of their own choosing. In each situation, the interviewer listens and probes for detail seeking to identify which competencies the candidate has used (and not used) in the past. Such discussions often cut through generic statements of capability and accomplishment by the candidates to what they actually did in real-life situations.

Experiential exercises and behavioral simulations are ideally suited to assess leadership and management competencies. These exercises vary from short role-playing scenarios requiring minimal preparation to more elaborate behavioral simulations with several participants, each provided with a detailed in-basket of background infomation. Project manager candidates can be put into these realistic situations and asked to respond, not by stating what they would do in the situations, but by actually doing it. Participants then step aside and become students of their own behavior through follow-up discussions including feedback from trainers and other participants. Assessment instruments and behavioral checklists can also be used to augment the personal feedback provided. Clearly, no project manager career development model is complete without a credible competency assessment process.

Competency Development

Even with effective assessment and selection processes,further improvement of critical project manager skills is desirable for all project manager candidates, even the most competent. Efforts to achieve this improvement should be directed both on the job and in the series of professional training opportunities which may be available or sponsored by the organization.

Case studies have proven effective in addressing project manager competencies when imbedded in established training programs. Case studies based on past projects can bring the real world dimension to the classroom and provide additional focus on project manager unique skill requirements. Several such real-world cases have been developed by DSMC and are now used in the curriculum.

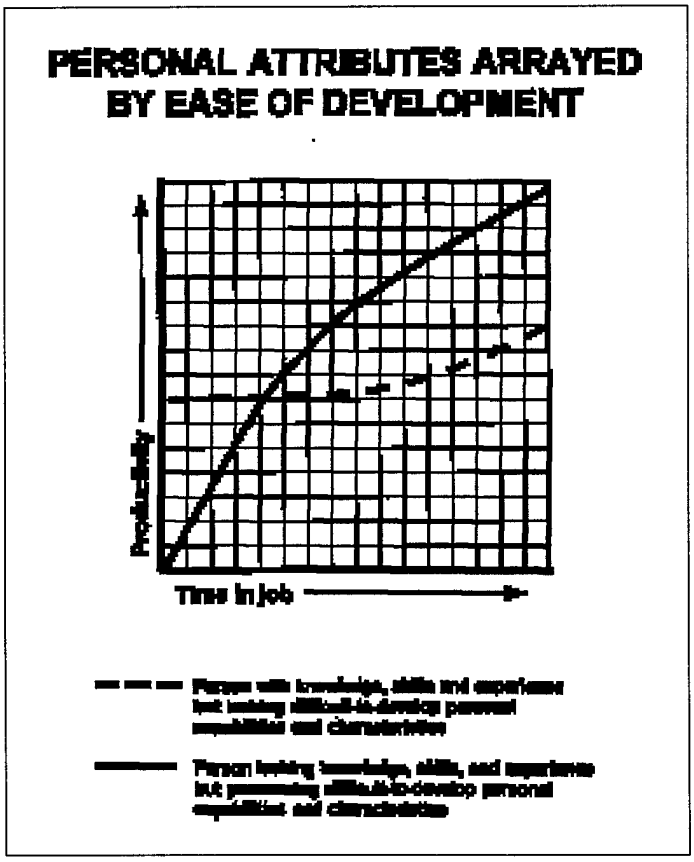
Experiential exercises can add the behavioral dimension to the classroom environment. DSMC uses several experiential exercises in its project management courses. They range from short team building exercises to the elaborate MouseTrap Car which covers the entire project life cycle with student work groups acting as project teams.

The benefits of experiential exercises are clear. They offer project manager candidates the opportunity to integrate their specialized knowledge along with the complex management and leadership skills necessary to be effective in the real-world project management environment.

Conclusions

The role of the project manager has and will continue to be a cornerstone of the Defense acquisition process. Defense project managers require a unique set of competencies focused extensively on managerial and leadership skills. However, considerable planning and attention must be applied now to ensure that future project managers will have these prerequisite skills. This includes carefully structuring processes for selection, assessment and development of project managers with the "right stuff" for the complex global environment of the future.

Figure 7.



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FY98 STREAMLINING OF THE PROGRAM EXECUTIVE OFFICER STRUCTURE

By Marlu W. Vance

Introduction

The Army acquisition community is undergoing major cultural and institutional changes resulting from the implementation of acquisition reform initiatives. Streamlining the Army's program executive officer (PEO) structure from nine PEOs to seven and transferring management responsibility for a number of its Acquisition Category (ACAT) II/III project and product management offices (PMOs) to the U.S.Army Materiel Command (AMC) in fiscal year 1998 are two of the numerous ongoing initiatives which promise long lasting benefits in the way the Army currently manages the business of acquiring weapon and information systems.

Today's PEO Structure

The Army Acquisition Executive (AAE) currently has nine PEOs—Air and Missile Defense;Armored Systems Modernization (ASM); Aviation; Command, Control and Communications Systems; Field Artillery Systems (FAS); Intelligence, Electronic Warfare and Sensors; Standard Army Management Information Systems; Tactical Missiles and Tactical Wheeled Vehicles (TWV)—responsible for the intensive management of tomorrow's weapon and information systems. Additionally, the AAE has two direct reporting Program Managers (PMs)—Joint Biological Defense and Chemical Demilitarization. PM, Joint Biological Defense is responsible for all Department of Defense biological defense programs, including all biological warfare agent detection systems and Food and Drug Administration approved medical biological defense products. PM, Chemical Demilitarization is the lead for the destruction of the United States' lethal chemical agents, munitions and related nonstockpile materiel,and supports the international chemical weapons convention, as well as provides support to other nations.

Consolidation Of PEOs, ASM, FAS And TWV

The consolidation of PEOs,ASM, FAS and TWV, effective not later than Oct.1,1997, reduces the number of PEOs in the structure to seven (See Figure 1.) Battle Management, shown in Figure 1, is an Air Force PEO. The consolidated PEO will be named Ground Combat and Support Systems (GCSS) with the flag being located in Warren, MI. The PEO, GCSS will be supported by a Deputy PEO for Maneuver Systems and a Deputy PEO for Fire Support Systems. Consolidation of the three PEOs conserves valuable manpower resources and will facilitate the management of the assigned systems. On Aug. 2, 1996, the Chief of Staff, Army announced that MG John F. Michitsch, PEO, FAS, would assume responsibilities for PEO, ASM and FAS, in Warren, MI, until the consolidation of the three PEOs in FY98.

Disestablishment Of PEO, STAMIS

The PEO, Standard Army Management Information Systems (STAMIS) organization will transfer to AMC by the end of fourth quarter FY98. With the transfer of this organization to AMC, the number of PEOs will be reduced to six. Programs within the STAMIS organization will be assigned to U.S. Army Communications-Electronics Command (CECOM).

New AMC Deputies For Systems Acquisition

To support the expanded acquisition mission within AMC and to ensure visibility and continued program success with the PMOs, the Secretary of the Army approved the establishment of three "Deputy for Systems Acquisition" positions at the brigadier general level. As a result of this action and to provide resources for these positions, three current General Officer acquisition positions will be eliminated to ensure zero growth in General Officer acquisition positions. The new positions will be located at CECOM, the U.S.Army Missile Command and the U.S.Army Tank-automotive and Armaments Command. The major subordinate command (MSC) commander rates the "Deputy for Systems Acquisition," the Military Deputy to the Assistant Secretary of the Army (Research, Development and Acquisition) serves as the intermediate rater, and the Commander, AMC serves as the senior rater. The Director of Information Systems for Command, Control, Communications and Computers (DISC4) will provide letter input for the Deputy for Systems Acquisition at CECOM.

Project/Product Management Offices To Transfer

A transition working group—chaired by Deputy Chief of Staff for Research,Development and Acquisition within AMC—will en-

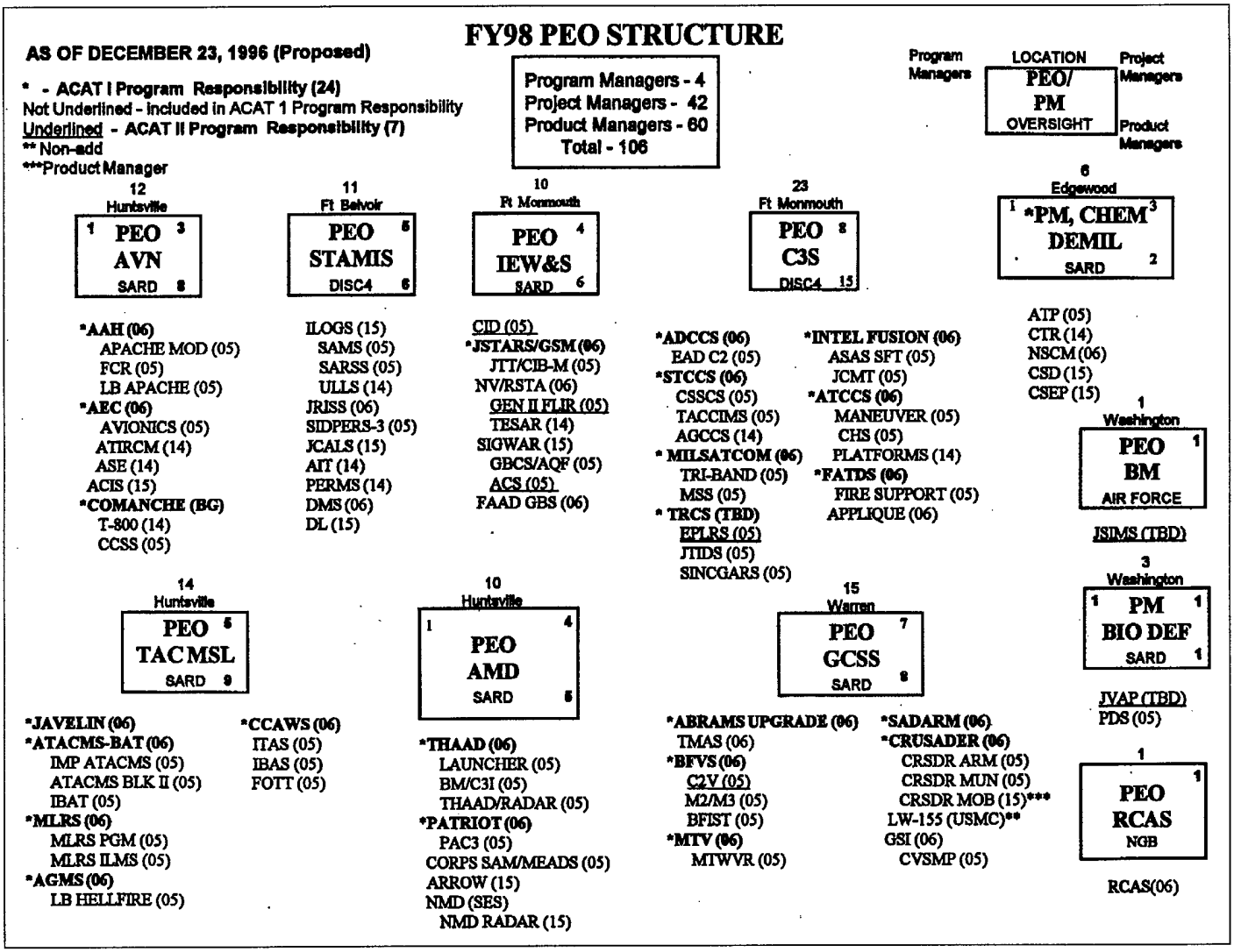

Figure 1.

sure a smooth transition of the PMOs from the PEO structure. Participation on this working group includes the Office of the Assistant Secretary of the Army (Research, Development and Acquisition); DISC4; affected PEOs and PMOs; Headquarters, AMC principals; and affected MSCs. In addition to the working group, AMC will establish a General Officer Steering Committee, chaired by the Principal Deputy for Acquisition, to provide management oversight. Programs transferring from the PEOs to AMC transfer as total PMOs and there will be no reduction in manpower levels. The PMOs transferring to AMC's MSCs follow: (Figure 2 shows the non-PEO managed programs for FY98.)

U.S. Army Communications-Electronics Command (CECOM)

- Project Manager, Joint Tactical Area Communication
- Product Manager, Communications Management Systems
- Product Manager, Defense Satellite Communications Systems Terminals
- Product Manager, Information Warfare
- Product Manager, Global Positioning System
- Product Manager, Firefinder

U.S. Army Aviation and Missile Command (AMCOM)

- Project Manager, Kiowa Warrior
- Project Manager, Utility Helicopters
- Project Manager, Non-Line-of-Sight Combined Arms
- Product Manager, Multi-Purpose Individual Munition/Short Range Assault Weapon
- Product Manager, Stinger Block I

U.S. Army Tank-automotive and Armaments Command (TACOM)

- Project Manager, Light Tactical Vehicles
- Project Manager, Heavy Tactical Vehicles
- Project Manager, Mines, Countermine and Demolitions
- Project Manager, Combat Mobility Systems
- Product Manager, Heavy Assault Bridge
- Product Manager, Hercules
- Product Manager, Paladin/Field Artillery Ammunition Support Vehicle
- Product Manager, M1 Breacher

The PEO structure is also being reduced in size by disestablishing the following PMOs:

- Project Manager, Satellite Communications (October 1996)
- Project Manager, Combat Identification (June 1996)
- Project Manager, Integrated Logistics Systems (September 1998)
- Product Manager, M1A1 Tank System (October 1996)
- Product Manager, M1A2 Tank System (December 1997)
- Product Manager, Forward Area Air Defense Command and Control Systems (June 1997)

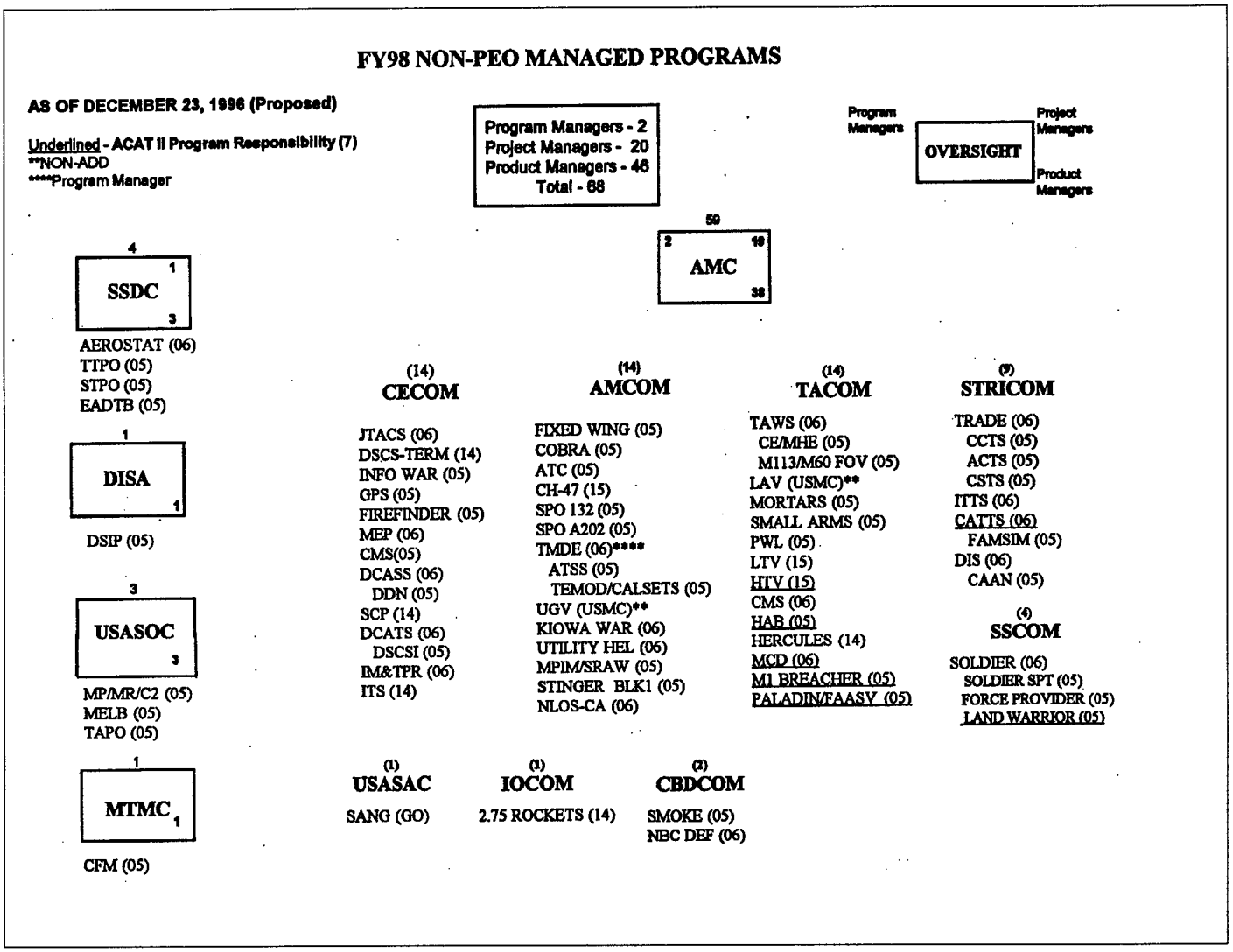

Figure 2.

- Product Manager, Common Software (September 1997)
- Product Manager, Joint Collection Management Tools (October 1998)
- Product Manager, Defense Satellite Communications System Control (October 1996)
- Product Manager, Universal Modem (October 1997)
- Product Manager, Ground Based Sensors-Light (June 1996)
- Product Manager, Personnel Electronic Record Management System (September 1998)
- Product Manager, Standard Army Ammunition System (October 1996)
- Product Manager, Standard Army Maintenance System (September 1998)
- Product Manager, Standard Army Retail Supply System (September 1998)
- Product Manager, Standard Army Property Book System Redesign (October 1996)
- Product Manager, Unit Level Logistics System (September 1998)
- Product Manager, Standard Installation/Division Personnel System (September 1998)

Conclusion

The transfer and disestablishment of PMOs provides the PEOs the ability to more closely focus on ACAT 1 and select supporting ACAT II/III programs and, with the transfer of the PMOs, AMC is re-established as a major player in the acquisition process. Each of the above initiatives represent implementation efforts toward acquisition reform. The AAE's intent is to continue to support the goals of the Secretary of Defense and the Congress regarding acquisition reform and to simultaneously support manpower reduction requirements of the Secretary of the Army and the Chief of Staff, Army.

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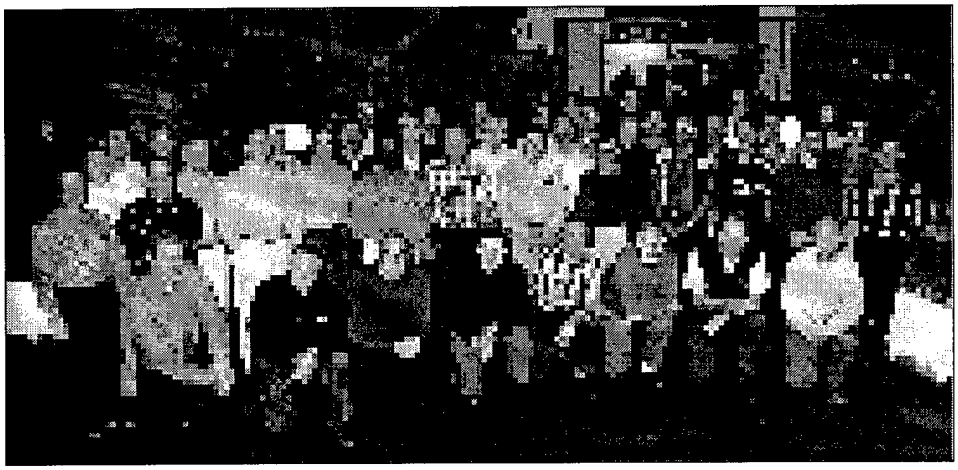


AMC PMs pose with Army and AMC leadership at the AMC PM Conference. Individual photos of all PMs are shown in the PEO/PM listing beginning on page 27 of this magazine.

ARMY MATERIEL COMMAND PROGRAM MANAGER CONFERENCE

By LTC Carl Anderson and Lawrence C. Williams

"AMC: Making Technology Work for Soldiers" was the theme of the second annual Army Materiel Command (AMC) Program Manager (PM) Conference hosted by the U.S. Army Aviation and Troop Command (ATCOM) in St.Louis,MO, Oct.22-23,1996. Chaired by LTG Dennis Benchoff, AMC's Deputy Commanding General (DCG), the conference allowed AMC-assigned PMs to meet with senior members of the Department of the Army and AMC staff, along with representatives from the testing,personnel, resource management, and contracting communities who provide critical PM support.Information was exchanged through a series of briefings,panel discussions,and informal discussions among attendees.

The rejuvenation of AMC from a sustainment and logistics command to an integrated sustainment,logistics,and acquisition command was the core message of this conference. More than 35 Program Executive Office (PEO) PMs will be transferred to AMC during the next two years,thus returning AMC to major player status in the acquisition arena. The conference provided a forum for these transferring PMs to learn about AMC and to receive the organizational vision directly from senior members of the AMC and Army acquisition leadership.

Defense Certificate of Recognition for Acquisition Innovation recipients LTC Randall Cason (second from left), PM Fixed Wing, and Robert M. Deppe (second from right), ATCOM Acquisition Center, pose with ASA(RDA) Gilbert F. Decker (center), DCG, AMC LTG Dennis Benchoff (right), and MG Emmitt Gibson, CG, ATCOM.

The conference agenda reflected the aggressive stance AMC has taken in putting technology to work for soldiers. Distinguished speakers included MG Roy Beauchamp, AMC Deputy Chief of Staff (DCS) for Research, Development and Acquisition (RDA),who described the restructuring of the RD&A DCS to better serve AMC's core competencies of "acquisition excellence"and "technology generation and application."

Maury Donnelly, Director of Investment, Office of the Assistant Secretary of the Army for Financial Management and Comptroller, discussed the status of today's research and development and procurement funds. Dale Adams, AMC Principal Deputy for Acquisition, provided attendees with an overview of the PM transfers to AMC. COL Steve Dasher, Chief, AMC Force XXI Office, discussed the emerging technologies being developed to support Force XXI and the Army "after next," and COL Brent Crabtree,Opera-

LTC Stephen Kessinger (right), PM Combat Support Training Systems, is congratulated by LTG Dennis Benchoff , AMC DCG, on being named 1996 AMC Product Manager of the Year.

COL William T. Meadows (right), former PM Soldier, is congratulated by LTG Dennis Benchoff, AMC DCG, on being named 1996 Project Manager of the Ye a r.

tional Test and Evaluation Command (OPTEC), described the reengineering of the test and evaluation communities, and how these changes will better serve the acquisition process. MG John Longhouser, Commanding General, U.S.Army Test and Evaluation Command,discussed the "virtual proving ground"and the improvements and efficiencies envisioned with it's implementation. LTC Timothy C. Lindsay, PM Force Provider, shared several "lessons learned" from his PM experiences.

Other speakers included COL Tom Rosner, Director, Acquisition Career Management Office, Office of the Assistant Secretary of the Army (RDA) (OASARDA), Ron Mlinarchik,Assistant Deputy for Acquisition Reform Reinvention, OASARDA,and Barbara Leiby,AMC DCS for Resource Management.

The highlight of the conference was the presentation of AMC Project and Product Manager of the Year Awards. The AMC Project and Product Manager of the Year Awards were presented by AMC DCG LTG Dennis Benchoff. Candidates, who were nominated by the commanders of their major subordinate commands, were judged on outstanding achievements in resource management (financial and manpower) ,effectiveness in implementing acquisition streamlining and innovations, and program complexities—to include exceeding program objectives/goals, positive impact on the acquisition/management process and, most importantly, significant contributions improving the lives and capabilities of Army soldiers.

COL William T. Meadows, formerly Project Manager Soldier, was honored as the 1996 AMC Project Manager of the Year. Meadows was recognized for his superior leadership in the total life cycle program management of more than 150 individual soldier systems within AMC. His achievements include the masterful use of performance specifications, best value approaches, and the empowerment of integrated product teams to acquire and field modernized individual equipment.

LTC Stephen H. Kessinger, Product Manager Combat Support Training Systems, was named the 1996 AMC Product Manager of the Year. Kessinger was cited for superior management of training devices and training instrumentation systems, totaling over $1.5 billion. He was recognized for his ardent use of acquisition streamlining,innovation, and aggressive acquisition management.

Assistant Secretary of the Army (RDA) Gilbert Decker presented two Defense Acquisition Innovation Certificates. This is a newly established DOD award designed to recognize and reward innovations in program management,contracting,and acquisition. LTC Randall W. Cason,PM, Fixed Wing, and Robert M. Depee, Chief, Kiowa Warrior/Fixed Wing Division, ATCOM Acquisition Center, were honored for their combined efforts in the solicitation and award of a unique contract for exchange of U-21 aircraft parts for a new B1900D aircraft.The conference concluded with a questions and answers executive panel consisting of Gilbert Decker, LTG Dennis Benchoff, Dale Adams, Maury Donnelly, MG Roy Beauchamp, and COL Tom Rosner.

The AMC PM Conference was considered by all to be a great success. The third annual conference will be hosted by the U.S.Army Tank-automotive and Armaments Command (TACOM) in Warren MI, and promises to be bigger and better with the addition of 19 more PMs joining the AMC family during FY 97.

LTC CARL ANDERSON is a contract management and industrial staff officer at the Army Materiel Command. He is a certified professional contract manager and an Army Acquisition Corps member. He holds a B.S. in biology from Furman University and an M.A. in management from Central Michigan. He has also completed the PM Course at the Defense Systems Management College.

LAWRENCE C. WILLIAMS is an acquisition policy specialist in AMC's Program Management and Acquisition Support Office. He holds a B.S. from Pennsylvania State University, and is currently working toward an electrical engineering degree from George Mason University.

THE ARMY PLANNING, PROGRAMMING, BUDGETING AND EXECUTION SYSTEM

Understanding The Process And The Role Of Acquisition Personnel In PPBES

By LTC Andy Mills

Introduction

The program manager faces many challenges throughout the life cycle of an acquisition program. No challenge is greater than to ensure sufficient and stable funding is available to develop,produce, field,and sustain a weapon system. The Planning, Programming,Budgeting,and Execution System (PPBES) is the Army's decisionmaking system to make this happen. Although many people consider the system complex,acquisition personnel must understand the interrelationship with the acquisition management system and acknowledge their role in the development of Army programs and budgets. The most recent Army Program Objective Memorandum (POM) for the years 1998 through 2003 demonstrates the importance of this process to ensure proper force structure and modernization efforts are resourced. This article provides an overview of PPBES using POM 98-03 and FY98/99 Budget Estimate Submission (BES) as examples.

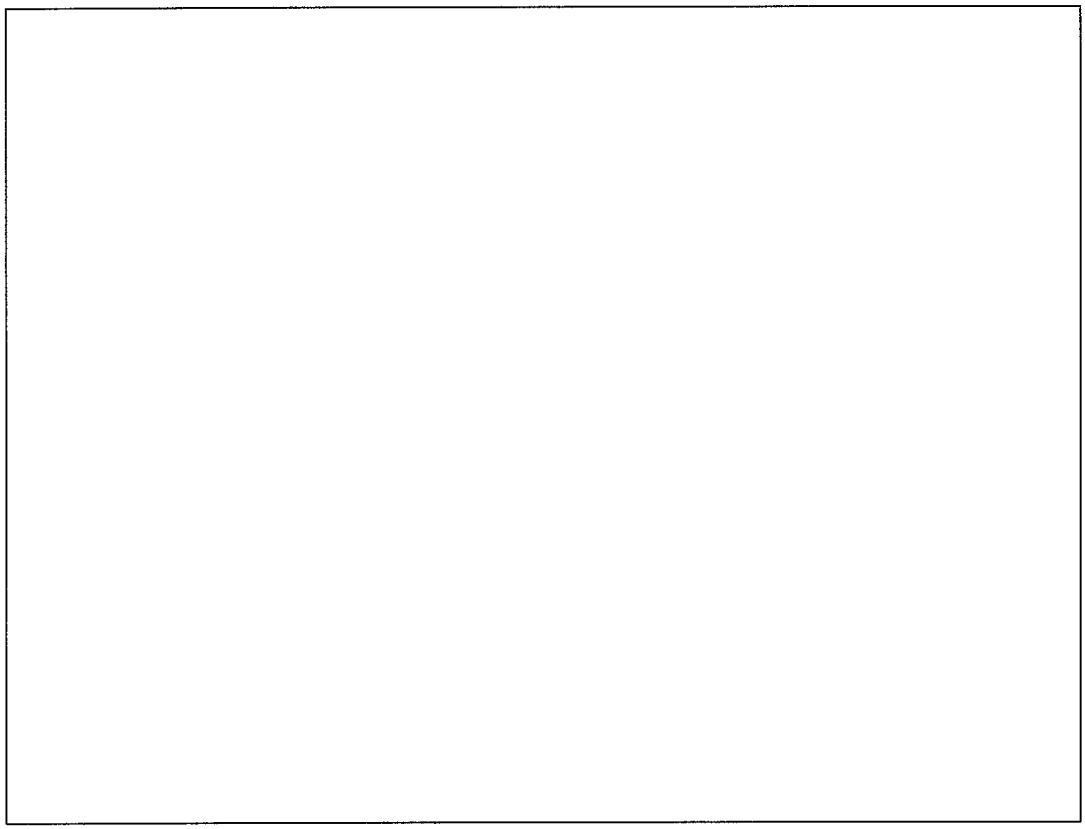
The PPBES Concept

Since the development of the Planning, Programming and Budgeting System (DOD system is PPBS whereas the Army system includes Execution—PPBES) by the Kennedy Administration in 1962, the Army has used this resource tool to tie strategy, program, budget and execution together. It is the process that develops Army missions from national security objectives and DOD Guidance, translates missions to requirements, builds programs from requirements, and transitions budgets from programs. The Assistant Secretary of the Army (Financial Management and Comptroller) has overall responsibility for PPBES. POM 98-03 and FY98/99 BES timelines are shown in the accompanying figure. As shown throughout this article,successful funding of acquisition programs rests in providing accurate,timely and consistent information during the PPBES process.

Planning

During the planning phase, force requirements and objectives are prepared and priorities are set. Input is gathered from many sources to include the Office of the Secretary of Defense (OSD) and the Joint Staff. The Secretary of Defense issues the Defense Planning Guidance (DPG), normally in May, that details his plan for developing and employing future forces. The DPG also establishes fiscal guidelines and outlines long-range goals and mid-range objectives and priorities.

The Joint Strategic Planning System (JSPS) is a continuous process that enables the Joint Chiefs of Staff (JCS) and OSD to re-



view, evaluate and propose programs for the Services in support of U.S.national security objectives. Key documents developed from the JSPS include the Joint Planning Document (JPD), Chairman's Program Assessment (CPA) and the Joint Strategic Capabilities Plan (JSCP).The JPD influences the DPG while the CPA evaluates how well the Service POMs support the CINCs' established priorities. In addition,they are accustomed to making decisions during the program review, as we will see later in this article. Once military capabilities are developed through programming and budgeting actions, the JSCP apportions these resources to the CINCs in order to develop war plans.

The Joint Requirements Oversight Council (JROC) has strengthened its role in assessing military capabilities and allocating resources among Services and programs. The JROC, chaired by the Vice Chairman of the JCS with membership from the Service Vice Chiefs, is responsible for looking across all Services to validate military needs and make recommendations on major acquisition programs. They also strive to achieve commonality and interoperability across all Services. This joint approach is important to ensure proper support to the warfighters.

The Deputy Chief of Staff for Operations (DCSOPS) has the Army lead to integrate, validate requirements and recommend priorities for The Army Plan (TAP). TAP (Fiscal Years 1998-2013), developed in late 1995, provided guidance for POM 98-03 and established long-range planning goals through the year 2013. This planning document is prepared every two years and is used for off-year program and budget updates. TAP also specifies the force structure to be equipped and sustained, which is the basis for the Army Modernization Plan.

DCSOPS and the Assistant Secretary of the Army (Research, Development and Acquisition) jointly develop the Army Modernization Plan. The latest 1996 version describes the modernization vision for the 21st century (known as Force XXI) and provides the strategy to develop, produce,and field the needed weapon systems. Not surprisingly, the Army's modernization effort is constrained by available resources. Modernization must compete with other Army programs such as readiness,training,manpower and quality of life programs. Therefore,with the modernization resources available, we must balance capabilities as well as establish efficient business practices to get the most from our funding.

The acquisition community, induding TRADOC systems managers (TSMs), PEOs/PMs, and other acquisition staff officers, is the conduit for information to flow between the acquisition management process and PPBES. Recent acquisition streamlining initiatives,such as TRADOC-led integrated concept teams (ICTs) to streamline the requirements determination process and integrated product teams (IPTs) to manage system development,have facilitated this exchange of information. IPTs are used in preparation for the Army Systems Acquisition Review Council (ASARC) at each milestone decision. Affordability assessments are part of the ASARC and results are incorporated into the program funding profile.

Programming

Programming translates Army planning decisions and DOD guidance into a comprehensive and detailed allocation of resources for a six-year period. POM 98-03 distributed resources across Army organizations, systems,and functions to support Army leadership priorities and policies.

The Program Analysis and Evaluation Directorate (PA&E) has the lead during POM development to prepare and submit this document to OSD. As a result of the 1986 Defense Management Review (Packard Commission),OSD instituted a biennial programming and budgeting process. How-

ever, due to changing requirements and resource levels, annual updates to the program and budget have been required.

The Army builds programs around Program Evaluation Groups (PEGs). During POM 98-03,the Army realigned the PEGs to correspond with the following Title X responsibilities: recruit, organize, supply, equip, train, and maintain the force. This new process has allowed the Army to balance resourcing for core Title X competencies in support of CINC requirements.

As part of POM 98-03 build,the Army reviewed major modernization programs to validate requirements, cost estimates, schedules and funding profiles. In many cases, program managers were called upon to brief the Army leadership on the status of their program, critical unfinanced requirements, unusual funding profiles,inter-Service issues and potential problems. This information was critical during the prioritization and allocation of resources within the PEG and also when justifying funding across PEGs. Final resource decisions were made by the Army Resource Board (ARB), chaired by the Secretary of the Army. POM 98-03 was submitted to OSD for review in May 1996.

OSD and JCS conduct a program review of selected topics once the Services and Defense agencies submit their POMs. Representatives from OSD, JCS, the Services, and Defense agencies form review teams to analyze programs and offer alternatives. This is a critical time for the Army to clearly articulate and defend programs. Acquisition personnel may again be called upon to provide impact statements and conduct "what if" drills for alternatives developed. Timely responses are critical because programs with poorly defined requirements and/or inadequate funding throughout the POM years are subject to funding reductions or termination. As mentioned previously, the CPA is used to evaluate how well the Service POMs support national military objectives and CINC priorities.The review culminates with a briefing to the Defense Resource Board (DRB),normally chaired by the Secretary of Defense. Final decisions are recorded via a Program Decision Memorandum (PDM). PDMs can transfer funding among Services or Defense agencies if it is determined that national military objectives or CINC priorities are better served.

Budgeting

The Deputy ASA for Budget is responsible for developing the budget. This process takes the first two years of the POM and expresses it by appropriation (e.g., Aircraft Procurement,RDTE,Operations and Maintenance) so that Congress can authorize and appropriate resources required to execute programs. Although this is supposed to be a biennial process, Congress has consistently required a budget update during the off-year of the cycle. The formulation stage begins with the development of the BES. This past year, the Army streamlined the POM to BES transition which reduced changes resulting in greater consistency. The FY98/99 BES was forwarded to OSD and the Office of Management and Budget (OMB) in mid-September 1996 for review.

> Acquisition personnel play a crucial role in linking the acquisition process with the Planning, Programming, Budgeting and Execution System.

OSD and OMB review budgets for technical errors,policy deviations and consistency from previous years' execution. They will normally conduct budget hearings to review programs and discuss specific issues. Program managers may be required to present information at these hearings. Their challenge is to clearly articulate their program and funding requirements while not unfunding other Army priorities. Adjustments to the Service budget may reflect policy decisions, inflation changes, Congressional direction, or technical corrections. These adjustments are recorded as program budget decisions (PBD). After all adjustments have been completed,OMB prepares the president's budget and submits it to Congress.

Once the budget is submitted to Congress,the justification stage begins. Various committees of Congress review the budget and hold hearings to discuss its contents. The House National Security Committee (HNSC) and the Senate Armed Services Committee (SASC) are responsible for the Authorization Bill. The House Appropriations Committee (HAC) and the Senate Appropriations Committee (SAC) prepare the Appropriation Bill. During these hearings, the Secretariat and the Army staff respond to inquiries about various programs. Timely, accurate and consistent information is essential to defend the budget and support additional funding. Discrepancies between House and Senate Committees are resolved during conference sessions. Final authorization and appropriation bills are sent to the president for signature.

Execution

Once the budget is signed by the president and apportioned by OMB,the Services can execute funding. The Army identifies budget execution as a separate component of PPBES because of its critical importance. Execution encompasses the overall management of funds and manpower to execute Army programs. PEOs and the Army Materiel Command are responsible for executing most of the modernization budget. This involves placing orders and awarding contracts (obligating funds),and then authorizing the disbursement of funds once goods or services are received (disbursement of funds). Actual disbursement of funds is done by DFAS. Careful management of budget performance is important because underexecution can reduce funding in future years. Year of execution adjustments are made in priority cases within Congressional limits. Proper execution of the budget is the most critical part of the process as it provides the actual material and services to soldiers.

Conclusion

Providing sufficient resources to develop, produce, field and sustain weapon and information systems is essential for a trained and ready Army. The Planning, Programming,Budgeting and Execution System is the tool that provides these needed resources. Acquisition personnel play a crucial role in linking the acquisition process with PPBES. Modernization dollars will continue to be constrained in future POMs and budgets. As an acquisition professional, your role in the successful funding of modernization will depend on clear articulation of the program, consistency of requirements during all phases, and good communication with all participants.

LTC ANDY MILLS is a program analyst in the Program Analysis and Evaluation Directorate, Office of the Chief of Staff of the Army. He holds a B.A. degree from the University of Vermont and an M.B.A. degree from Georgetown University.

The future success of the Army depends on it.
The future of the United States depends on it.

These dramatic words describe an operational requirement that is the basis of a unique Army- and Navy-sponsored program. The program is not aimed at developing a new weapon or communication system. Instead, it is developing the very foundation of the technology base that will be needed to keep the country in a leadership position in the world marketplace. It is developing the next generation of human brainpower on which America's technological Army of the future will run.

The Army's Youth Sciences Outreach Programs are identifying and nurturing science and math interest and potential among young students, and encouraging and preparing students toward careers in Department of Defense laboratories. Through a wide variety of programs, many Army labs partner with local school systems to improve science and engineering education. The Science and Engineering Apprentice Program is prominent among these outreach programs.

THE SCIENCE AND ENGINEERING APPRENTICE PROGRAM

By LTC John Haug
and Dr. Marylin Krupsaw

The Science and Engineering Apprentice Program (SEAP) dates back to a 1980 directive from the Executive Office of the President, and the 1981 DoD Instruction 3218.1 "DoD Science and Engineering Apprenticeship Program for High School Students." SEAP has the following stated objectives:

- To stimulate, among high school students, a broader interest in careers in science and engineering;
- To provide students with opportunities in, and exposure to, scientific and engineering practice and personnel not available in their school environment;
- To prepare these students to serve as positive role models for their peers, thereby encouraging other high school students to take more science and math courses; and
- To strengthen the nation's efforts to recruit and sustain persons for careers in science and engineering.

But, as if that were not enough, SEAP has also been proven to generate valuable products for the DOD labs, at remarkable cost savings.

Administered by George Washington University (GWU) in Washington, DC, SEAP approaches the stated objectives with three related program components: The Basic Apprentice Program, Teaching New Technology, and the Sequel effort. A discussion of each of these follows.

- The Basic Apprentice Program. The basic SEAP places academically qualified high school students into hands-on scientific activities in participating Army, Navy, and other Department of Defense labs, primarily in surrounding states in the Washington, DC, vicinity. The program focuses on students who have strong scientific interest. Many of the participants are taking the most advanced science and math courses available in their schools. They may, however, not yet know what career they want to pursue, nor have a definite commitment to the sciences. Students typically obtain program applications through their high schools, and then send the application directly to GWU.

In placing the students, the labs assign a practicing engineer or scientist to each student in a mentor-apprentice relationship. All mentors are volunteers. Each is given instructional information by the GWU School of Engineering and Applied Science to assist him or her in maximizing the benefit of the apprenticeship experience for both the student and the lab.

The students work for an eight-week period during their summer vacations. During their apprenticeship, they may work on discrete projects which can be completed in the eight-week period, or they may contribute to ongoing research. As apprentices, they earn an educational award stipend, starting at $1,350. At the end of the eight-week apprenticeship period, they write a technical paper describing their project, its background, experimental procedures, and results. The paper is submitted to George Washington University, and the students present an oral summary to their sponsoring agency lab.

Student apprentices also present their papers at a seminar session and closing ceremony at George Washington University at the end of the eight-week period. The closing session also includes tours of Washington, DC, the Washington Navy Yard, and the Smithsonian Air and Space Museum.

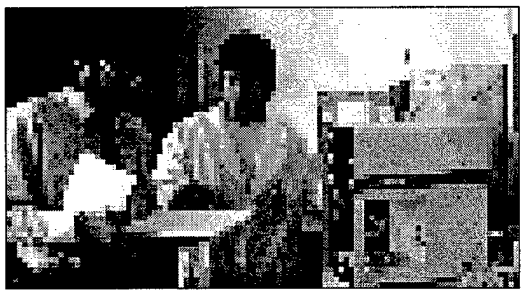
In 1980, the first year of the program, four Army organizations—the Army Research Institute, Harry Diamond Laboratory, Fort Detrick, and the Walter Reed Army Institute of Research—participated in the basic SEAP. By 1995, the number had grown to 11. In that time, the number of SEAP apprentices participating at Army labs grew from 35 to 212. The program has seen similar growth in the Navy labs during that time, as well.

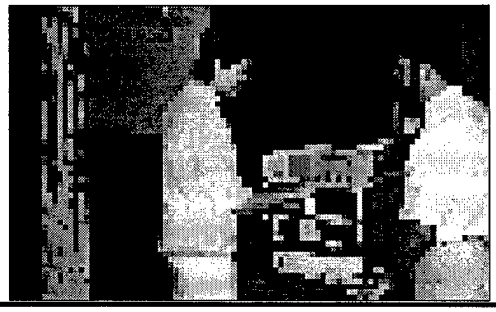
• Teaching New Technology. In 1984, the SEAP was expanded to include secondary school science and math teachers. This component, Teaching New Technology (TNT), was developed to provide special motivation to science and math teachers, and to help them stay abreast of recent advances in research tools and technology. The first phase of TNT is a three-credit graduate-level course, "Teaching New Technology, Emgt 298," at the George Washington University School of Engineering and Applied Science. Teachers who complete the three-credit course are eligible for an eight-week assignment in a participating laboratory to perform research under mentorship, in the same environment as the student apprentices. They receive an educational assistance award, and also serve as on-site counselors to the SEAP apprentices during the eight-week period. In this way, the teachers are exposed to the same kinds of hands-on laboratory research experiences as the students.

The TNT experience is designed to update the teachers on current scientific research, discoveries, and techniques, and to suggest ways of integrating new technologies and new teaching strategies into their math and science curricula. As an additional benefit, involving teachers in the SEAP generates renewed enthusiasm, and has encouraged them to promote the SEAP among their students.

• Sequel. The mentor-apprentice relationship experienced in the basic SEAP proved so successful that many of the participating laboratories sought continuation of the association, into students' college years. In response, the SEAP-CQL (sequel) was initiated in 1992. Under SEAP-CQL, the student continues technical activity at the same laboratory, on any schedule acceptable to both. The laboratory is responsible for determining and funding any educational stipend awarded to the students.

Science and Engineering Apprentices support research activities at various locations. Shown, clockwise from top left, are apprentices working at the Topographic Engineering Center, U.S. Army Center for Health Promotion and Preventive Medicine, Night Vision EO Directorate of CECOM, U.S. Army Medical Research Institute of Chemical Defense, Army Research Lab at Adelphi, and the Waterways Experiment Station.





SEAP-CQLs are typically paid at the GS-3 or GS-4 rate. Administratively, the award is made through the university and,in return, the SEAP-CQL student is asked to serve as a "guide" and positive peer role model to SEAP apprentices active in the laboratory during the same period.

Program Funding

The SEAP operates under a grant managed by the Office of Naval Research (ONR). Program funding for SEAP comes from the Department of Army Office of the Assistant Secretary of the Army for Research, Development, and Acquisition (OASA(RDA)) and the Department of Navy Office of Naval Research. The grant covers administration, conduct, and institutional costs of the program, along with stipends for some of the student apprentices. Because of the value of the work done by the students, participating laboratories and mentors have brought aboard more apprentices than the grant would cover. Many have found it to be worth paying the stipends for most, or all, of their apprentices. The labs also pay all of the SEAP-CQL educational award stipends, through the GWU program office.

Return On Investment

Dr. Marylin Krupsaw, the George Washington University Director of the SEAP, maintains files with stacks of letters of appreciation for the program. Letters come from student apprentices, and from their parents, their scientist-mentors, their teachers, and from the directors of the laboratories where the students work. Responses are unanimous in their praise, and underscore the win-win character of the program.

The students list, as benefits, the chance to use their minds; the thrill of dealing hands-on with modern,high-capability equipment; the opportunity to work as a member of a professional team toward a specific engineering goal; and the advantage of having real job experience on which to base their career choice. SEAP also provides a powerful career incentive, motivating interested students who have exhibited discipline and good work habits. Many apprentices continue their association with the participating labs, as SEAP-CQLs, as contractors, or as full-time employees, when possible. In 1995, 42 percent of the students were returning from previous participation, and 26 percent were returning as college students.

From the parents' point of view, SEAP provides a "great 'bootstrap' on a resume "when applying to colleges—"armed with a resume full of research experience and a number of research reports "from their summer job. In addition, the student stipend provides a strong motivator to the student, as well as

A mentor from the Aberdeen Test Center reported that his apprentices brought fresh, up-to-date computer skills to the job, along with a ready eagerness to apply those skills.

welcome assistance to the parents, in paying college tuition. One student, who based a High School Science Fair project on her previous summer SEAP work, received several awards,including a $5,000 scholarship.

Mentors are often amazed, at first, that young high school students are able to contribute substantially to the mission of the laboratory. A mentor from the Aberdeen Test Center reported that his apprentices brought fresh, up-to-date computer skills to the job, along with a ready eagerness to apply those skills. Mentors at the Armed Forces Radiobiology Research Institute expressed appreciation for the students' capability to comprehend difficult techniques, and to produce results with little supervision. For mentors who realize, and make the best use of, the students' talents, the rewards have been program objectives met in far less time, and enhanced capability for the lab, even after the apprentice returns to school.

While many think of the SEAP in terms of how the program benefits the students,and the future of the nation,directors of the participating labs report tremendous benefit from the work done by these highly intelligent high school students,at relatively low cost to the agency. At Walter Reed Army Institute of Research, a student designed a graphic user interface for the local area network that saves valuable time for the physicians who use the LAN. The student's work could have cost $5,000 of a regular employee's time, or even more, if contracted. The institute estimated that two other students, whom they described as "computer geniuses," accomplished more projects than could have been done for $30,000 through contractors. The MICOM lab awarded their team of apprentices for developing an ammunition logistics simulation program. The team successfully completed their work during the summer, for well under $10,000. Before that, the lab had budgeted over $120,000 for contracting out the effort. These are just a very small sample of the successes experienced by Army labs which participate in this apprentice program.

The value of the students' work is commonly estimated into the tens of thousands of dollars. But the benefits to the labs should not only be expressed in terms of dollars saved. Students have also brought fresh approaches to scientific research programs, and have assisted permanent workforce members in becoming more computer literate. Among the permanent workforce, their enthusiasm is contagious.

Conclusion

Since its inception,the SEAP has apprenticed over 5,000 high school and college students. Whether they eventually hire on at DOD laboratories,or enter the science or engineering fields in some other way, they will be strengthening the nation's technological foundation, and contributing to its military and economic strength. At the same time,they will have made their career decision based on real experience, and improved their own chances for academic and job success and satisfaction.

Additional information regarding the Science and Engineering Apprentice Program can be requested from Dr. Marylin Krupsaw, Director, Science and Engineering Apprentice Programs, School of Engineering and Applied Science, The George Washington University, Washington, DC 20052.

DR. MARYLIN B. KRUPSAW is the Director of the Science and Engineering Apprentice Programs at George Washington University. She holds a bachelor's degree in chemical engineering from City College of New York, a patent law degree from Columbia University, and M.S. and Ph.D. degrees in science education from The American University, Washington, DC.

LTC JOHN G. HAUG is an Individual Mobilization Augmentee action officer under the Director for Research and Laboratory Management, OASARDA. He holds a B.S. degree in mechanical engineering from Rutgers University, is an AAC member and a graduate of the Program Management Course at the Defense Systems Management College. He is a member of the 143d IMA Detachment at Headquarters, Test and Evaluation Command, Aberdeen Proving Ground, MD.

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52 Army Employees Graduate From Gateway University Program

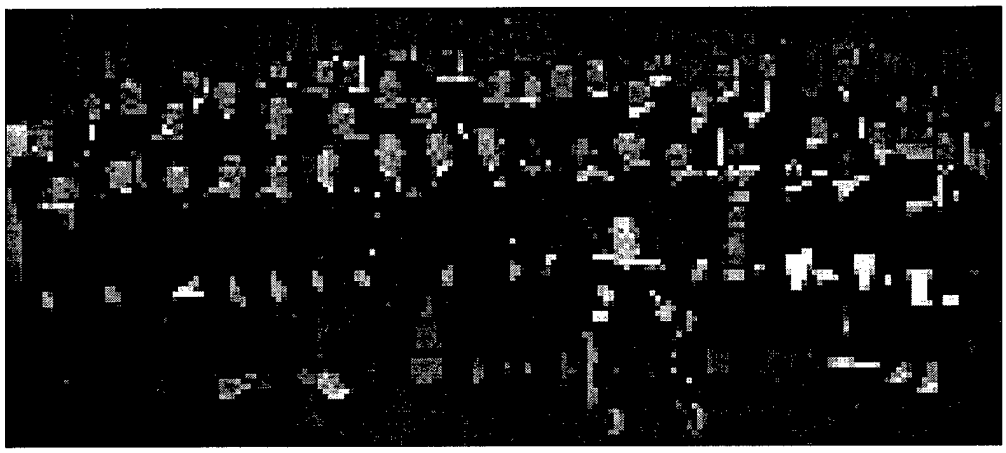
Fifty-two Department of the Army employees received college degrees Aug. 22, during the third annual Gateway University Program graduation ceremony in St. Louis, MO. Sponsored jointly by the U.S Army Aviation and Troop Command (ATCOM) and the Program Executive Office, Aviation (PEO, Aviation), the Gateway Program is designed to provide an innovative and effective approach to meet employees' educational needs, especially those of members of the Army acquisition workforce and the Army Acquisition Corps.

Gateway University Program students receive an M.S. degree in engineering management from the University of Missouri (Rolla), or a B.A. degree in business management through Webster University, or participate in continuing education and certificate programs offered by the St. Louis Community College system. On their own time, participants attend classes which are offered on-post and are fully funded by the Army. The Executive Agent for the program is the Civilian Personnel Officer, Diane Ottolini, with administration performed by her Training and Development Division.

Since 1994, a total of 96 employees have received degrees through the program—61 have earned the M.S. degree in engineering management and 35, the B.A. degree in business and management.

This year, 28 employees received the B.A. degree in business and management, and 24 received the M.S. degree in engineering management.

Keith Charles, Deputy Assistant Secretary for Plans, Programs and Policy, and Deputy Director for Acquisition Career Management, Office of the Assistant Secretary of the Army (Research, Development and Acquisition), gave the



1996 Gateway University Program Graduates, *shown to the right, are recipients of the M.S. degree in engineering management, awarded by the University of Missouri, Rolla, and recipients of the B.A. degree in business and management awarded by Webster University. In the front row, center, are Keith Charles, Deputy Assistant Secretary for Plans, Programs, and Policy, and Deputy Director for Acquisition Career Management, OASARDA, flanked on the left by MG Emmitt E. Gibson, ATCOM Commander, and on the right by BG James R. Snider, Comanche Program Manager, Program Executive Office, Aviation.*

Keith Charles, *Deputy Assistant Secretary for Plans, Programs, and Policy, and Deputy Director for Acquisition Career Management, OASARDA, gave the graduation address.*

Reginald T. Burton *is shown above wearing the hood, which signifies the M.S. degree in engineering management. Shown also are Keith Charles (center), Deputy Assistant Secretary for Plans, Programs, and Policy, and Deputy Director for Acquisition Career Management, OASARDA, and Dr. Yildrim Omurtag (far left), Engineering Management Department Chairman for the University of Missouri at Rolla.*

graduation address.

MG Emmitt E. Gibson, ATCOM Commander, and BG James R. Snider, Comanche Program Manager in the PEO, Aviation, served as hosts for the ceremony and delivered opening and closing remarks. More than 350 family members and friends of the graduates, university representatives and fellow workers attended the ceremony.

Recipients of M.S. degrees in engineering management are: William T. Atchley, Reginald T. Burton, Richard T. Feld, Celeste L. Freeman, Robert A. Garrison, Phillip Howard, Carl D. Krull, Anthony E. Labath, Leon A. Langebartels, Paul L. Luedtke, Jay P. Merkel, Stephen D. Monaco, Martin A. Ohrenberg, Gregory G. Raffel, Steven C. Riebeling, Mark D. Schaake, Ronie L. Taylor, Thomas A. Weigartz and Kent G. Weiter.

Graduates receiving the M.S. degree, but unable to attend the graduation exercises are: Brian G. Cioffi, Donald J. Fressmeier, Frank B. Mokry, Roger J. Olson and Charles R. Williams. Carl D. Krull's degree was awarded posthumously to his wife. He died in March 1996, while completing his course work.

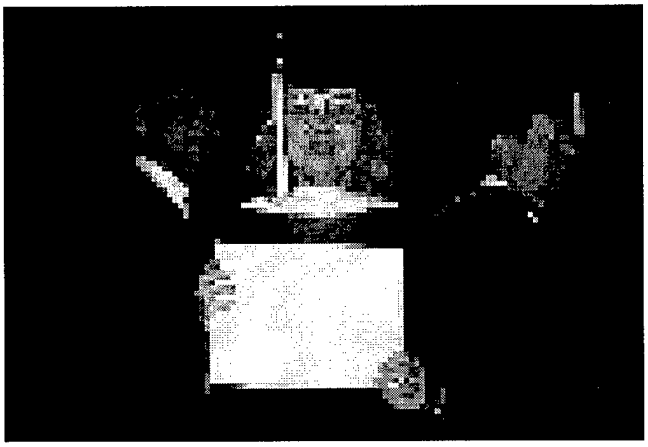
Graduates receiving the B.A. degree in business and management are: Fulton D. Allen, Earlene Barnes, June D. Bolen, William R. Butler, Ronald E. Courtney, James C. Deheve, Mildred J. Frazier, Judith L. Golightly, William G. Gregory Jr., Suzanne Haas, Patricia Ann Hughes, Jeanne M. Kastner, Louise A. Leaser-Lenkman, Earl E. Meyer Jr., Elizabeth J. Militello, Gregory A. Pearson, Kenneth H. Souders, Daniel R. Striplin, Lorraine Turner, Pamela Sue Wenhoff and Dennis R. Yeargain.

Recipients of the B.A. degree, who were unable to participate in the graduation ceremony are: Sherri L. Atkins, Deborah Smith Carter, Michael L. McGee, Mark A. Perry, Mark A. Richardson, Eugene Walton and Darlene Williams.

Webster Univeristy representatives conferring degrees were Dr. James Staley, Associate Vice President for Academic Affairs; Dr. Wilford G. Miles Jr., Dean of the School of Business and Technology, and Sue Leahy, Program Coordinator and Academic Advisor.

Representing the University of Missouri at Rolla were: Dr. Walter Gajda, Vice-Chancellor for Academic Affairs; Dr. Yildrim Omurtag, Chairman of the Engineering Management Department; and Dr. Ray Kluczny, Program Coordinator and Faculty Member.

Observing the graduation ceremony *are (left to right): MG Emmitt E. Gibson, ATCOM Commander; BG James R. Snider, Comanche Program Manager, Program Executive Office, Aviation; Diane Ottolini, Civilian Personnel Officer; Daniel J. Rubery, ATCOM Deputy to the Commander; COL Edwin Goosen, Deputy Program Executive Officer, Program Executive Office, Aviation; and COL Julius G. Scott Jr., ATCOM Chief of Staff.*



June E. Bolen *received her B.A. degree in business and management from Webster University. Shown in the background are Keith Charles (left), Deputy Assistant Secretary for Plans, Programs, and Policy, and Deputy Director for Acquisition Career Management, OASARDA, and Dr. Wilford G. Miles Jr., Dean of the School of Business and Technology, Webster University.*

Pamela Sue Wienhoff received her B.A. degree in business and management from Webster University. Shown in the background are Keith Charles (left), Deputy Assistant Secretary for Plans, Programs, and Policy, and Deputy Director for Acquisition Career Management, OASARDA, and Dr. Wilford G. Miles Jr., Dean of the School of Business and Technology, Webster University.

ALPHA CONTRACTING

Applying The IPT Approach To Contract Negotiations

By Thomas C. Meyer

Introduction

Alpha contracting is a name that has been coined to apply to an innovative technique that takes the contracting process and converts it from a consecutive (and often iterative) process into a concurrent process. From solicitation development, through proposal preparation,to evaluation, negotiation, and award, Alpha contracting relies on a team approach to concurrently develop a scope of work,price that scope, and prepare the contract to execute the scope. Used in sole-source negotiated situations, Alpha contracting has allowed requirements for major systems, subsystems, and components to be under contract in a matter of days or weeks rather than months or even years.

The Traditional Approach

In a typical sole-source procurement,the program office will develop the scope of work,specifications,and data requirements, often through an iterative process of drafts and reviews with matrix support and user staffs. This package is then sent to the procurement office which incorporates the requirements into a request for proposal and sends it out to the contractor. There, it is fanned out to the contractor's team for development of the respective pieces, which are consolidated into a total proposal, and staffed for review and approval.Then,once the proposal is sent to the government,the real fun begins.

The government team begins its lengthy evaluation of the proposal,including technical reviews, audits, and contract terms and conditions issues. This frequently leads to demands for more supporting information and cost backup, and often results in changes to requirements as technical or affordability problems are discovered. The contractor then develops a revised proposal and the process starts over.

Even the length of the evaluation itself may prompt changes as rates rise or funds are diverted elsewhere and quantities or scope must be adjusted.A year or more to evaluate and negotiate a major proposal is not uncommon. Subsequent proposal revisions can eat up more time and complicate the evaluation and negotiation process. Meanwhile,pressures mount on the government to get the program under contract. Likewise,the contractor becomes impatient as material costs rise, proposal expenses continue,and he struggles to retain personnel and vendors on the project team. When it's all over, costs are higher, time has been lost, and any cooperative spirit that may have existed at the start of the process is strained or strangled. This is hardly an ideal way to start an important contract.

The Alpha Approach

Alpha contracting is really a subset of the Integrated Process and Product Development (IPPD) process. It's the pre-award phase of IPPD. Rather than a heel-to-toe process, with Alpha contracting an integrated product team is established with all the players in the process including requirements,contracting,audit, and the user, along with the contractor and his principal subcontractors. Together, this team develops the scope of work and other contract requirements. Rather than a solicitation or proposal, their product is essentially a model contract. It forms a baseline for the team to jointly develop the technical and cost detail that is the basis of the contract agreement.

As the meat is put on the skeleton, the team may identify the need to change the baseline to improve performance, lower risk,or reduce cost. In effect,this team development facilitates another important initiative—Cost As an Independent Variable (CAIV). Rather than have a proposal submitted with numerous exceptions or a price that is unaffordable, the team jointly develops an approach which all parties find acceptable and affordable from the outset. This approach is much more likely to result in an optimized program with an achievable scope, a high level of performance or quality, and the avoidance of non-value-added requirements, at a lower overall cost than what was originally contemplated.

When we jointly develop the cost as the technical details take shape, and include government pricing and audit personnel in that development process, the end result is a fully negotiated, supported contract price rather than a proposal. The Alpha contracting process usually does not produce either a traditional solicitation or a traditional proposal. The "model contract"developed at the beginning is revised and adjusted as the technical and price details are worked out, and becomes the executed contract document.

Implementation

Once use of the technique has been endorsed by top management, the Alpha contracting process should begin with a kickoff meeting to develop the strategy to achieve a fully agreed upon contract. This meeting should result in agreement on the process, identification of subteams and members,establishment of methods of communicating information and data, and the setting of

goals and milestones. The individual subteams then need to establish their own working rules, schedules, communication methods, and goals.

The requirements reconciliation process is the keystone for the remaining efforts. It can begin with a govemment-developed strawman scope and specification which the joint team then scrubs. The team must also agree on a contract approach, formulate a work-breakdown structure, and develop a rough-cut cost and schedule. With this baseline,the contract subteam can then develop a model contract complete with scope, schedule, and terms and conditions, and create the contract line item structure.

The cost subteam meanwhile can begin to identify tasks and assumptions, agree on pricing and evaluation methodology, and develop and agree on the various cost or price elements. Sharing data bases is an important and necessary means to reach a expeditious agreement. Another important consideration is the involvement of vendors and subcontractors in the process.

Use of a vendor conference to establish and agree on pricing methodology has proved to be very effective in getting vendor quotes that are correct and supportable the first time. As cost elements are developed and agreed upon, the price negotiation memorandum is constructed, leading to a final documented price agreement. This process of cost or price development and agreement is probably the area where trust and communication are most difficult, due to our traditional adversarial roles in negotiation. Experience shows that this part of the process will not work unless:

- There is specific management buy-in;
- A willingness to trust exists on both sides;
- Honesty is evident; and
- The team is empowered.

Benefits Of The Process

The obvious benefit of the Alpha contracting process is the reduction in time to award.At the U.S.Army Tank-automotive and Armaments Command (TACOM), the process is used extensively. TACOM-ARDEC was a pioneer in Alpha contracting using the technique for the Crusader program to cut five months off the negotiation process.

In another example, this one at TACOM-Warren, the previous buy had taken 22 months to award and required four revisions to the contractor's proposal. Using the Alpha approach,the FY96 buy was completed in less than four months at a price that allowed procurement of several additional vehicles.

At the TACOM-Armament and Chemical Acquisition and Logistics Activity (ACALA), in Rock Island,IL,a multi-million dollar technical support contract took only two days to complete the proposal, the evaluation, and the negotiation process.

Examples of savings of four to nine months, or 40-50 percent and more of administrative lead time are common. But,in addition to time and proposal preparation cost savings, the Alpha process greatly improves the understanding of the parties. By jointly developing the work scope and the pricing of the effort, future disagreements on work requirements and cost assumptions are reduced or eliminated. Program risk is lowered as the government and the contractor have consistent expectations and have an achievable, executable program requiring fewer post-award modifications.

The improved understanding and cooperation also produces collateral benefits including more open and honest communication throughout contract perfomance, facilitating future conflict resolution without litigation. Further, the partnership that is developed also serves as a springboard for increased streamlining. Importantly, these benefits are transferrable and tend to improve other programs and projects that the government and contractor have in common.

Disadvantages

Alpha contracting is very labor-intensive at the front end. While overall manpower requirements should actually be less over the full contract life,the need for dedicated personnel for weeks or months at a time during contract development creates difficulties for organizations with limited staffs and other demands to satisfy at the same time.In today's era of downsizing,this is not a small issue for either the government or the contractor. Use of the full Alpha approach needs to be targeted to those acquisitions where there is high payoff. Tailoring the approach to specific tasks or areas, using electronic data interchange, sharing databases,and optimizing use of existing information (e.g., forward pricing rate agreements, existing audits, recent negotiation results, established bills of materials), helps minimize the manpower demands and can accelerate the process.

Keys To Success

For Alpha contracting to work, there are several keys. First is a management commitment to the process. The atmosphere of trust and honesty, that is such a critical element, must start at the top and be evident there, and be championed there. Another critical element is empowerment. Participants must be given the authority as well as the responsibility to share information and to make agreements. This has proven to be at least as difficult on the industry side as it is on the government side. The early involvement of all parties and a willingness to "think outside the box" form a third key element. Alpha is an intense process and requires patience and dedication. And finally, at the working levels, all participants must be willing to trust each other and be honest with each other. These are not easy things to do where you have a long history of animosity, yet those are very often the situations where Alpha contracting can provide the greatest benefits.

Conclusion

Alpha contracting is a proven approach to reducing administrative lead time, reducing costs, and improving both the negotiated agreement and the probability of success of the resulting contract. It is in use in all three Services and has the enthusiastic support of both DCAA and DCMC. One DCAA auditor wrote the contracting officer after participating in an Alpha contracting process, praising the experience. He reported that he felt his independence was not compromised, that his contribution seemed more appreciated, and that the Alpha technique saved him time and effort and resulted in an agreement that he fully supported. DCMC has embraced the approach in its Integrated Product Team Pricing program. Industry comments have also been universally favorable.

The Tank-automotive and Armaments Command has great success at all three of its sites using Alpha contracting, as have other AMC major subordinate commands. As time goes by, we find that this cooperative technique opens other doors and boosts related initiatives to lower costs,improve cycle time, reduce litigation, and improve quality and performance.

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A PM'S PERSPECTIVE ON COST CONTROL

The Army-Industry PAC-3 Experience

By LTC Patrick J. O'Reilly and COL Kenneth N. Brown (USA Ret.)

Experience to date has demonstrated that the principles of acquisition reform applied through integrated product and process development have had a unique positive impact on the product manager's effectiveness in controlling costs.

Introduction

The U.S.Army PATRIOT Advanced Capability-3 (PAC-3) Program Office, a block upgrade to the PATRIOT Air Defense Missile System, is developing a new hit-to-kill missile and upgrades to the PATRIOT ground equipment which integrate the new missile into the deployed system. The prime contractor for the PAC-3 missile and its command and launch system is Lockheed Martin Vought Systems in Grand Prairie,TX. Raytheon,Inc., in Bedford,MA, is the PAC-3 missile segment integration contractor. Both participate with each other through an associate contractor agreement. The program is approximately halfway through its Engineering and Manufacturing Development (EMD) phase. Experience to date has demonstrated that the principles of acquisition reform applied through integrated product and process development (IPPD) have had a unique positive impact on the product manager's effectiveness in controlling costs.

The mission of the PAC-3 Missile Product Office in response to acquisition reform gives recognition that the prime contractors execute this program as full team players in a coordinated, no-nonsense, value-added govemment-industry team effort. This article describes specific examples of the management processes and practices used by the PAC-3 missile government-industry team to implement streamlining, control costs, and assure quality and best value in production. Lessons confirmed or learned in the first two years of the PAC-3 EMD are highlighted.

Integrated Product And Process Development

Early in the PAC-3 EMD Program, the prime contractor agreed to implement IPPD. There have been some evolutionary changes, and the structure as shown in Figure 1 is the result of this evolution. Essential to this structure is the selection of the six mid-level integrated product teams (IPTs). Three of these IPTs are responsible for configuration item products. They are: Missile, Seeker, and the Command and Launch System. The other three—Performance and Simulation, Test and Evaluation, and Production—are responsible for key development processes.

The leaders of these IPTs participate in the System Integration Team (SIT) where technical expertise focuses on resolving multi-product/discipline issues. The SIT provides technical input to the Program Management Team where prime and major subcontractor program managers and the government PM meet to assess progress and give guidance and advice to the SIT and mid-level IPTs. Issues are identified in process well before good solutions become impractical or infeasible because of adverse impact on work accomplished.

A key to the effectiveness of IPTs is the decentralized empowerment to make decisions. Figure 2 is an example of the written empowerment of the government IPT representatives. Although IPPD emphasizes decentralized empowerment, the govemment IPT representatives also come together once a week for two govemment-only roundtables. At the PAC-3 Technical Roundtable,IPT and functional representatives discuss cur-

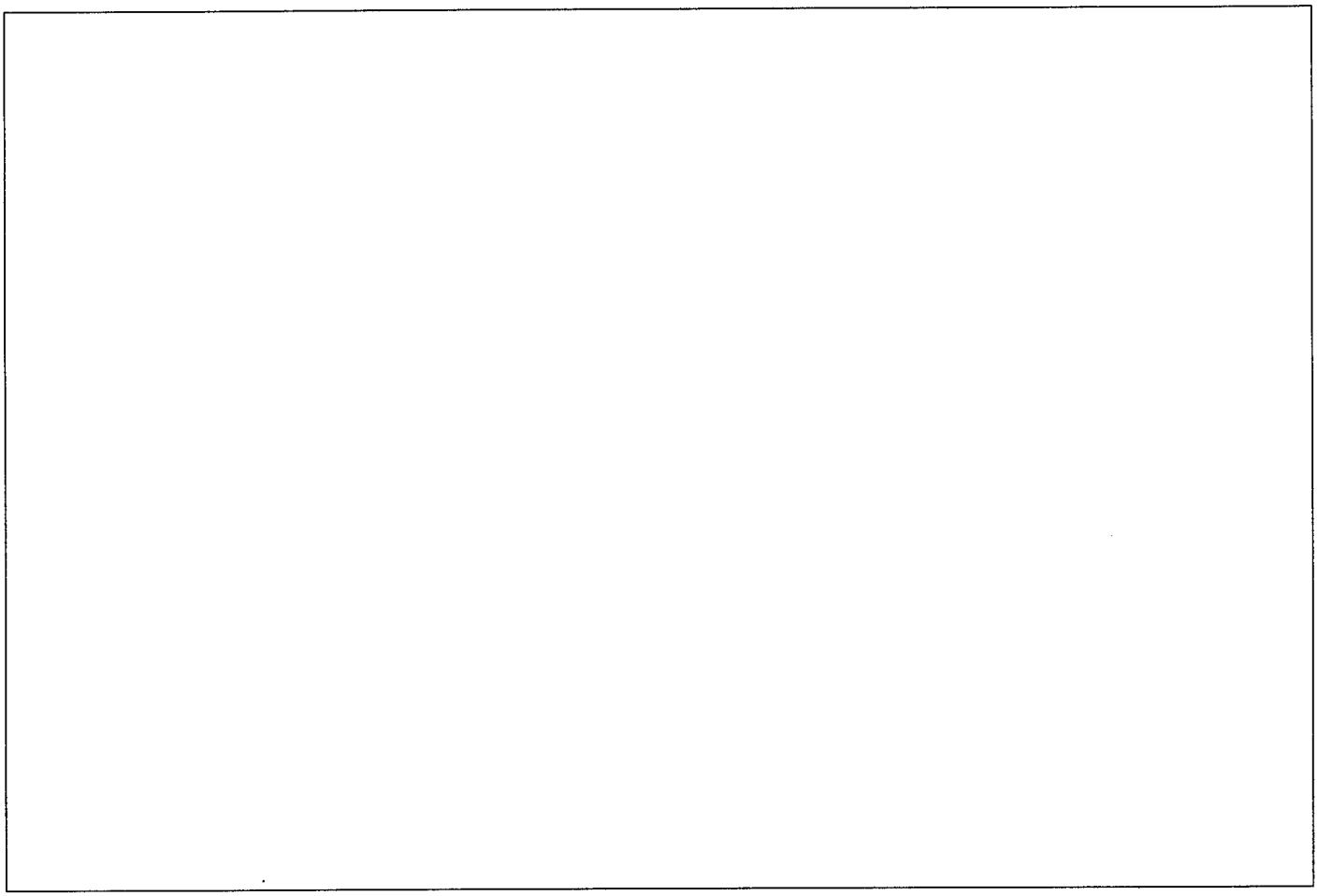


Figure 1.
PAC-3 Contractor-Government Integrated Product/Process Development.

rent issues, develop a consensus on progress, and agree upon uniform guidance for the contractors. The PAC-3 Management Roundtable deals with program (cost, schedule,perfomance, and risk) issues and status.

The lessons confirmed or learned by the PAC-3 IPPD experience thus far in EMD are:

- Members of IPTs need experience or education in non-engineering disciplines and need the temperament to work in a team situation.
- Special consideration needs to be given to team member personalities.Identifying and matching personality types accelerates the team development process.
- Implementation of IPPD/IPT is effective when the team controls all the project, technical, and functional elements needed for the particular product or process.
- The IPPD process must be well-choreographed in both schedule and content.
- Geographical separation can be overcome by use of electronic mail, data faxing, video-teleconferencing, and good recording and distribution of minutes and action items.
- Recognition and rewards should be immediate for those who expose problems and contribute to their solution. IPTs that keep their programs in tolerance don't have to go see the boss. That often proves to be quite a "significant" reward.

Baseline Development

The team approach created the foundation for the baselining effort by developing a complete and mutual definition of the PAC-3 technical approach and its implementation. The full baselining of our program requires technical and programmatic integration as shown in Figure 3.

Key to cost control is establishment of technical and program baselines. Four basic system engineering process reviews were conducted from 1994 through 1996. These were the System Requirements Review (SRR),System Design Review (SDR),Preliminary Design Review (PDR),and Critical Design Review (CDR). Taking advantage of the streamlining license, we agreed to tailor the criteria in Military Standard 1521B and to hold reviews when sufficient data were available to attain tailored objectives.

Each review in succession increased the detail and stability of the design,and PAC-3 accelerated this by the increase of in-process knowledge which is possible when IPTs function well.

Using Army guidance and principles, PAC-3 conducted an Integrated Baseline Review (IBR) immediately after the PDR and after the cost elements of the EMD contract were definitized. PDR provides the allocated technical baseline and creates confidence that the Work Breakdown Structure (WBS) can meet the needs of allocated functional requirements. We capitalized on the product technical knowledge gained by government IPT participants during the PDR process to review contractor allocation and scheduling for work packages.

IPPD exposes IPT participants to an

Figure 2.
IPT Government Member Charter.

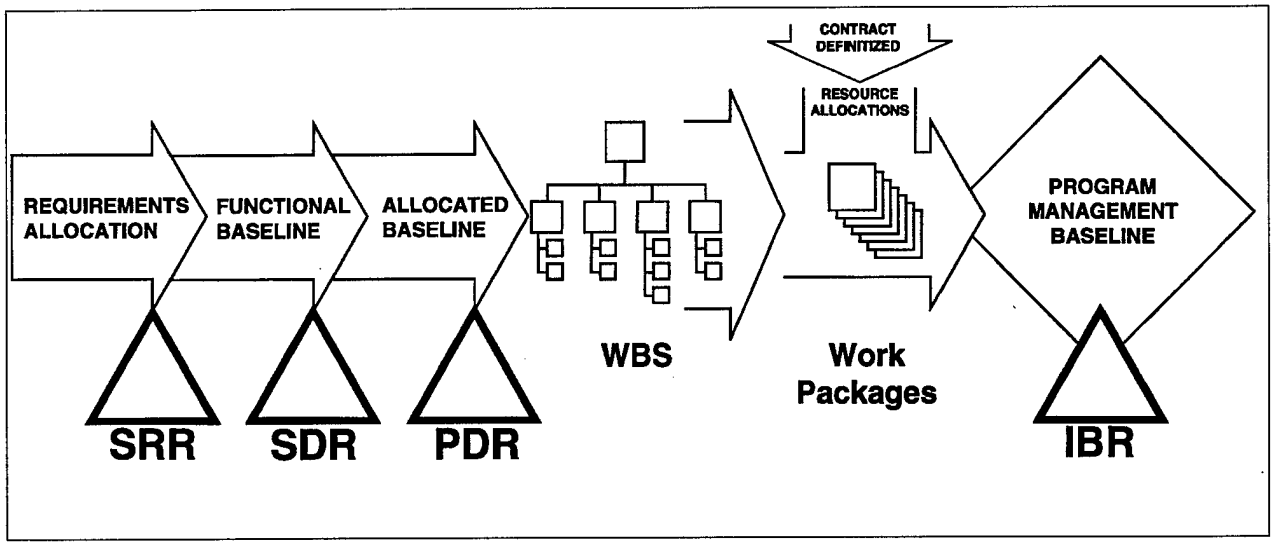


Figure 3.
PAC-3 Baseline Integration.

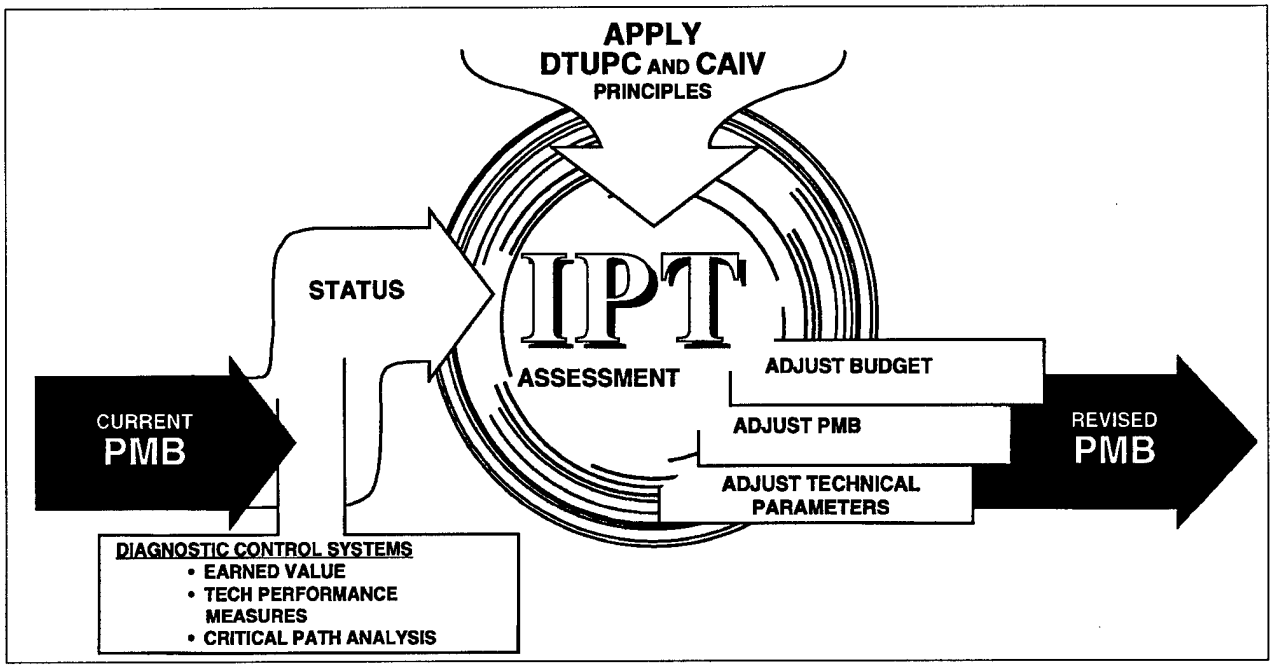


Figure 4.
PAC-3 Cost Control System.

enormous amount of technical and programmatic data which can easily saturate contractor and government managers. To focus our attention on the critical data which provides insight into key management problems and solutions, we use three "diagnostic control systems" (DCS) as described by Robert Simons in his article in Harvard Business Review (March-April 1995). These DCSs are Earned Value Management (EVM), Technical Performance Measurement (TPM), and Critical Path Analysis (CPA).

The quantitative nature of these management tools allows reporting thresholds to be established. Where deviations occur, lower level IPTs report their situation to higher level IPTs. As a result, higher level IPTs manage by exception, yet they maintain awareness of program progress which is visible through the DCS. Lessons learned about baseline development and implementation are:

- Expectations of outcomes of baseline reviews are key to success. These should be jointly developed.
- A robustly supported government IBR is essential to enhance the government's understanding of how the contractor's budget supports the contract.
- No baseline should be agreed upon before its time. Event orientation should deal with maturity of documentation and sufficiency of details.
- Pure technical reviews are obsolete. Functional and programmatic elements must be considered in real-time and IPPD allows this to happen.
- Large government data deliverables are not needed and are likely to be insufficient. The IPPD process (and the use of contractor formats) actually provides more real

time information and allows much better team understanding.

Cost Control System

The steady reduction in Design to Unit Production Cost (DTUPC) estimates for the missile and the application of Cost as an Independent Variable (CAIV) are illustrations of the effectiveness of PAC-3 cost control in the IPPD environment. Figure 4 shows the PAC-3 cost control process which has the combined objectives of affordability with system effectiveness.

As a key TPM,the missile DTUPC was reported as a threshold breach in November 1995. Competition between component-level suppliers was initiated by government participants causing significant DTUPC estimate reductions. Competitive forces caused Attitude Control Motor DTUPC to be reduced by more than 34 percent. Production initiatives,such as advanced tooling for composites, reduced the DTUPC estimate for the overall missile by 4 percent. Parallel developments of integrated circuits and power modules contributed an additional 4 percent reduction.

The greatest potential to reduce DTUPC seems to be the insight into business relationships gained by government participants in the PAC-3 IPPD. Since more than 80 percent of the PAC-3 missile is built by subcontractors, exploration into alternative sourcing strategies (i.e., how components are purchased) may supply the largest reduction in DTUPC yet. Current progress in restructuring multiple layers of management fees during the production phase will reduce DTUPC another 5 percent.

These reductions have come naturally from the government-contractor integrated effort. That means that these estimates are very likely to be real and not disappear in some old-style "them (government) vs. us (contractor)" negotiation near the end of EMD. To provide insurance, PAC-3 has conducted Joint Initial Production Readiness Reviews (IPRR) for all production subcontractors. These were the first-ever "joint"reviews of this type for a Defense program. Due to the combined expertise and access to details of business and corporate strategy, these "joint"IPRRs gave the PAC-3 industry-government management team insight into production issues.

Another cost management tool emerging with greater authority as a result of acquisition reform is Cost as an Independent Variable (CAIV). Prior to the Critical Design Review, a desired requirement surfaced. The capability to stack canisters in all modes of transportation (especially aircraft) was requested. One solution was an extension of current skids plus the use of dunnage for rail shipment (total cost $64K). However, this solution would revise aircraft loading procedures. The other solution was a complete canister skid redesign. There was more than a $4 million difference in these two approaches. With combat developer representation,the IPPD process resulted in selection of the lower cost solution with revised transportation instructions.

Another CAIV application was visible when the safety community adopted a strict interpretation of cold temperature firing requirements. Instead of a significant missile and ground system redesign,a solution was found by using existing missile heating kits and revising operator procedures. In both CAIV cases, the proper consideration of cost and involvement of the combat developer in the IPPD process were important in keeping appetites under control. Lessons confirmed or learned are:

- IPTs allow government insights into DTUPC cost structure, visibility into cost drivers, and visibility about cost reduction opportunities. IPT members'skills in EVM, TPM, and CPA are essential.
- Contractor cost center and business considerations and relationships become paramount in many business decisions. IPPD increases influence in what used to be a mystery to government managers.
- A fully involved combat developer is a distinct positive force in the application of CAIV.
- Cost reduction substance comes from the technical soundness of estimates. Early reviews and continuous involvement of production expertise create this soundness.
- Because IPTs deal with a multidiscipline input, it is necessary to avoid information overload.EVM,TPM, and CPA focus data assessments. Sizing the IPTs for effectiveness requires involving only relevant expertise.
- Asking IPTs to forecast earned value performance for a prescribed future period (in PAC-3 experience,90 days is forecasted) encourages proactive management in realistic time frames.
- Follow-up "incremental IBRs" and monthly joint surveillance are essential and, by participating in the review process, the contractor is better prepared to take corrective action.

Conclusion

Management of the PAC-3 product has evolved from fundamental management and Department of Defense acquisition reform principles. These principles are the creation of baseline stability, the development of value-added IPPD, and the implementation of diagnostic control systems for disciplined cost control.

Lowering the adversarial relationship between government and contractor participants has yielded better value for all. We are all real-time participants with an investment stake in the outcome. Our experience on PAC-3 shows that acquisition streamlining initiatives are feasible because IPPD is being used. The absence of contractual deliverables is compensated by the visibility of government IPT participants into contractor data and standards. IPPD creates an environment of mutual understanding fostering trust and the desire to innovate. Acquisition reform has helped reshape our attitudes about government and contractor partnerships,so we know more about what the government wants and how the contractor is going to build it.IPTs find opportunities to control costs and are empowered to make rapid decisions to take advantage of those opportunities. Lessons learned or confirmed on the PAC-3 Program should be considered when applying the new and old principles cited here. The benefits of IPTs and IPPD should be evident, but they depend upon aggressive implementation.

LTC PATRICK J. O'REILLY is a member of the Army Acquisition Corps and is currently the Product Manager for the PATRIOT Advanced Capability-3 (PAC-3) Missile Program in Huntsville, AL. He previously served as Assistant Project Manager, Theater High Altitude Area Defense. O'Reilly holds a B.S. degree from the U.S. Military Academy, an M.S. in physics from the Naval Post Graduate School, an M.S. in management from Salve Regina College, and an M.A. degree in national security and strategic studies from the Naval War College. He is also a graduate of the Defense Systems Management College.

COL KENNETH N. BROWN (U.S. Army, Ret.) is a Division Director for Nichols Research Corporation in Huntsville, AL. He served previously as the Army Project Manager, Air Defense Command and Control Systems, and was a member of the HQDA Honor Roll for Acquisition Streamlining in 1988. Brown holds a bachelor's degree in aeronautical engineering from Rensselaer Polytechnic Institute and an M.S. degree in aerospace engineering from Georgia Institute of Technology. He is also a graduate of the Industrial College of the Armed Forces, the Army War College, and the Defense Systems Management College.

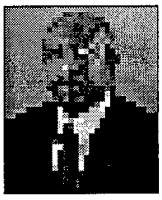
ARMY PROGRAM EXECUTIVE OFFICERS AND PROGRAM/PROJECT/PRODUCT MANAGERS

Information provided in the following list was current as of Nov. 1, 1996. In addition, there is an acronym listing following the photo feature.

PEO AIR AND MISSILE DEFENSE

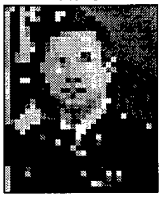
BG Daniel L. Montgomery

PROJECT MANAGER ARROW



Joseph H. Butler

PRODUCT MANAGER CSAM/MEADS NPO



LTC L. Steven Pierce (Acting)

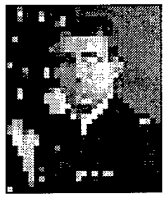
PROGRAM MANAGER NMD

Dr. Shelba J. Proffitt

PROJECT MANAGER NMD-RADAR

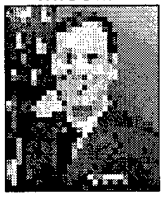
COL Anthony C. DiRienzo

PROJECT MANAGER PATRIOT



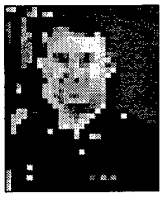
COL Stephen J. Kuffner

PRODUCT MANAGER PAC-3 MISSILE



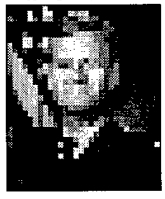
LTC Patrick J. O'Reilly

PROJECT MANAGER THAAD



COL Louis P. Deeter

PRODUCT MANAGER THAAD LAUNCHER

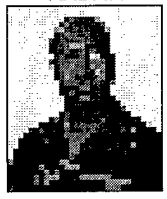


LTC Michael E. Johnson

PRODUCT MANAGER THAAD BM/C^{3}I

LTC Mary A. Kaura

PRODUCT MANAGER THAAD RADAR



LTC Michael T. Perrin

PEO AVIATION

Paul Bogosian (Acting)

PROJECT MANAGER ACIS

Thomas R. Metzler

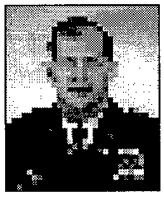
PROJECT MANAGER AAH

COL Stephen G. Kee

PRODUCT MANAGER APACHE MOD

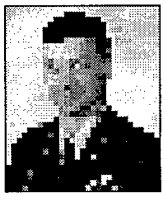
LTC Laurence E. Thomas Jr.

PRODUCT MANAGER FCR



LTC Howard Bramblett

PRODUCT MANAGER LB APACHE

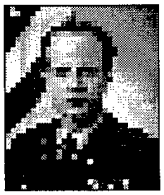


LTC Richard R. Ryles

PROJECT MANAGER AEC

COL Roy P. Oler

PRODUCT MANAGER AVIONICS



LTC Robert D. Buckstad

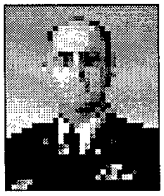
PROGRAM MANAGER COMANCHE

BG James R. Snider

PRODUCT MANAGER CCSS

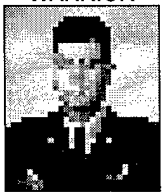
LTC Gary D. Jerauld

PRODUCT MANAGER T800 ENGINE



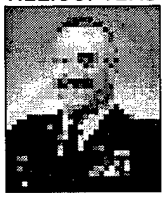
LTC Robert P. Birmingham

PRODUCT MANAGER KIOWA WARRIOR



LTC Lawrence J. Ginder

PROJECT MANAGER UTILITY HELICOPTERS

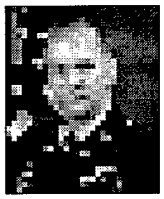


COL Chester L. Rees Jr.

PEO C³S

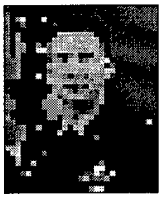
MG William H. Campbell

PROJECT MANAGER ADCCS



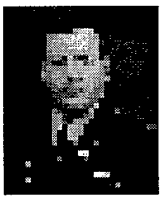
COL Thomas L. Haller

PRODUCT MANAGER EAD C²



LTC James A. Moran

PRODUCT MANAGER FAAD C²

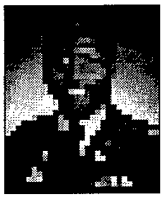


LTC Edward M. Siomacco

PROJECT MANAGER APPLIQUE

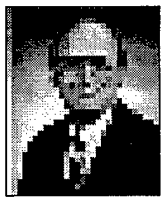
COL Dean R. Nakagawa

PROJECT MANAGER CHS



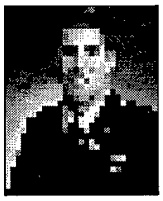
COL Clarence B. Mitchell

PRODUCT MANAGER COMMON SW



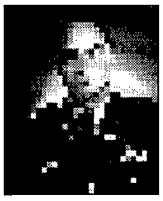
Dr. David Usechak

PRODUCT MANAGER PLATFORMS



LTC James M. Modlin

PROJECT MANAGER FATDS



COL Steven W. Boutelle

PRODUCT MANAGER AFATDS

LTC John R. Grobmeier

PROJECT MANAGER INTEL FUSION

COL Lawrence G.J. Arrol

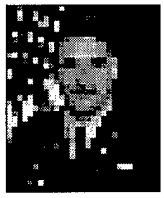
PRODUCT MANAGER ASAS/SFT

LTC Michael K. Hainline

PRODUCT MANAGER JCMT

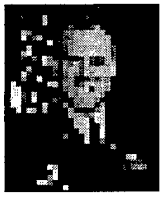
LTC Charles R. Ball

PROJECT MANAGER JTACS



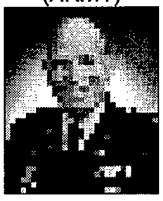
COL John M. Urias

PRODUCT MANAGER COMM MGT SYS



LTC Carl M. Tegen

PROJECT MANAGER MILSTAR (ARMY)

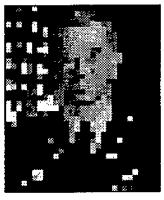


COL Michael R. Mazzucchi

PRODUCT MANAGER GPS

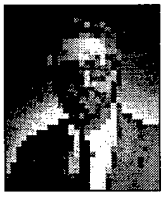
LTC Joseph Lofgren

PROJECT MANAGER OPTADS



COL Stanley C. Leja

PROJECT MANAGER SATCOM

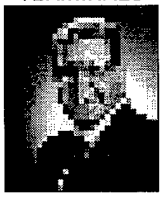


Albert W. Miller (Acting)

PRODUCT MANAGER DSCS CONTROL

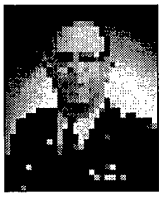
Ronald F. Johnson

PRODUCT MANAGER DSCS TERMINALS



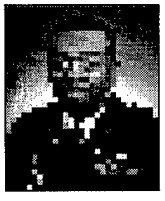
William T. Anderson Jr.

PRODUCT MANAGER TACSAT



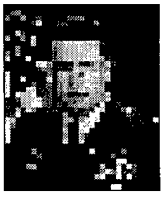
LTC David W. Ludwig

PRODUCT MANAGER TRI-BAND



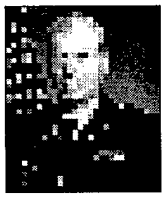
LTC William D. Beatty

PRODUCT MANAGER UNIVERSAL MODEM



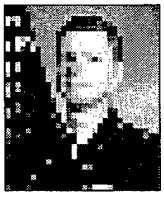
LTC Michael W. Sidwell (Acting)

PROJECT MANAGER STCCS



COL Barry E. Wright

PRODUCT MANAGER CSSCS



LTC Stephen E. Broughall

PRODUCT MANAGER STACCS

Photo Not Available

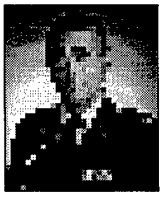
R. Dancann (Acting)

PRODUCT MANAGER TACCIMS

Photo Not Available

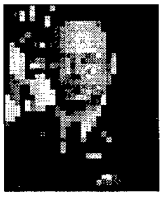
LTC Charles F. McMasters

PROJECT MANAGER TRCS



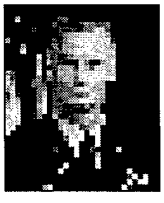
COL Lalit K. Piplani

PRODUCT MANAGER EPLRS



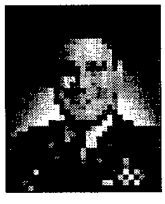
LTC John P. Weinzettle

PRODUCT MANAGER JTIDS



LTC Patrick C. Short

PRODUCT MANAGER SINCGARS

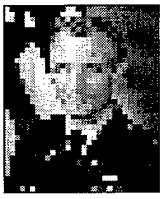


LTC Carl F. Menyhert

PEO
GCSS
(PROVISIONAL)

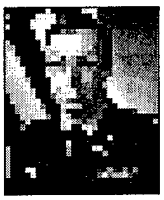
MG John F. Michitsch

PROJECT MANAGER ABRAMS



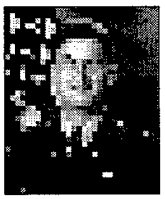
COL Christopher V. Cardine

PRODUCT MANAGER M1A1



LTC John L. Gross

PRODUCT MANAGER M1A2



LTC George B. Patten

PROJECT MANAGER BFVS

COL Joseph L. Yakovac

PRODUCT MANAGER BFVS/C^2V

LTC Paul M. Wilson

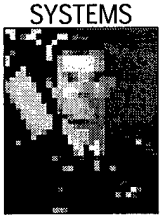
PRODUCT MANAGER BFIST

LTC James C. Naudain

PRODUCT MANAGER M2A2/M2A3 BFVS

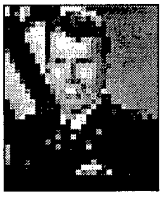
LTC Theodore E. Johnson

PROJECT MANAGER COMBAT MOBILITY SYSTEMS



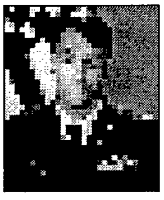
COL Donald F. Schenk

PRODUCT MANAGER HEAVY ASSAULT BRIDGE



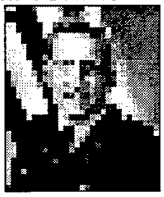
LTC Samuel M. Cannon

PRODUCT MANAGER HERCULES



LTC Robert B. Lees Jr.

PRODUCT MANAGER GRIZZLY M-1 BREACHER

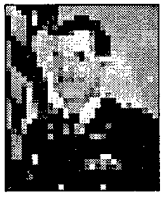


LTC Donald P. Kotchman

PROJECT MANAGER CRUSADER

COL William B. Sheaves III

PRODUCT MANAGER CR ARM

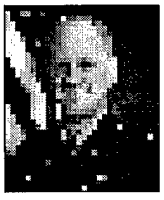


LTC Richard G. Kamakaris

PRODUCT MANAGER CR MOB

LTC Michael K. Asada

PRODUCT MANAGER CR MUN/RES

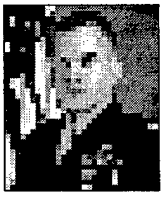


LTC Michael K. McChesney

PROJECT MANAGER GSI

COL D. David Newlin

PROGRAM MANAGER JLW-155



COL Stephen C. Ward (USMC)

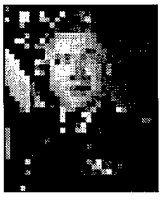
PROJECT MANAGER MCD

COL Thomas E. Dresen

PRODUCT MANAGER PALADIN/ FAASV

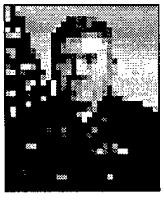
E. Carroll Gagnon

PROJECT MANAGER SADARM



COL James E. Unterseher

PROJECT MANAGER TMAS



COL Raymond Pawlicki

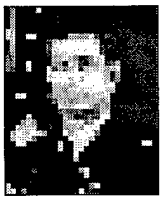
PEO IEW&S

MG David R. Gust

PRODUCT MANAGER CID

LTC John D. Mahony

PRODUCT MANAGER FAAD GBS

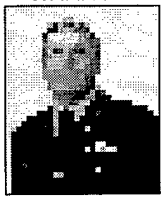


LTC Tim R. McKaig

PRODUCT MANAGER FIREFINDER

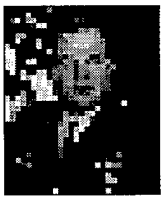
LTC Thomas M. Cole

PRODUCT MANAGER INFO WARFARE



LTC Thomas P. Kelly

PROJECT MANAGER JSTARS/GSM



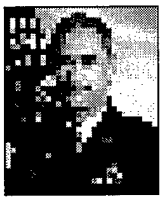
COL James E. Young

PRODUCT MANAGER JTT/CIBSM

Photo Not Available

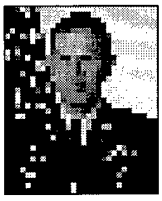
LTC Stephen R. Kostek

PROJECT MANAGER NV/RSTA



COL Jeffrey A. Sorenson

PRODUCT MANAGER GEN II FLIR



LTC Curtis L. McCoy

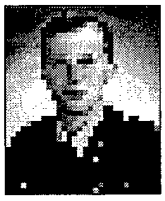
PRODUCT MANAGER TESAR

Robert F. Golden

PROJECT MANAGER SW

William S. Hayden

PRODUCT MANAGER ACS



LTC Bruce D. Jette

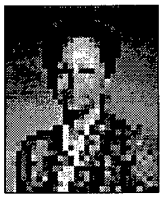
PRODUCT MANAGER GBCS/AQF

LTC Frank D. Taylor

PEO STAMIS

COL Richard W. Johnson (Acting)

PRODUCT MANAGER AIT



Susian Vickers

PROJECT MANAGER DMS

COL Robert Raiford

PROJECT MANAGER ILOGS

Peter O. Johnson

PRODUCT MANAGER SAAS

Gary K. Schuller

PRODUCT MANAGER SAMS

Photo Not Available

LTC Joseph M. Brito

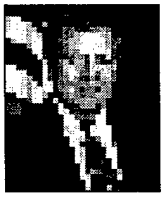
PRODUCT MANAGER SARSS

LTC Timothy Mallette

PRODUCT MANAGER ULLS

Nicholas L. Flaim

PROJECT MANAGER JCALS

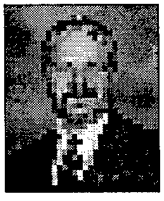


Robert Doto

PROJECT MANAGER JRISS

COL Jerry M. Henderson

PRODUCT MANAGER PERMS



Edgar Lewin (Acting)

PROJECT MANAGER SBA

Roxanne C. Austin

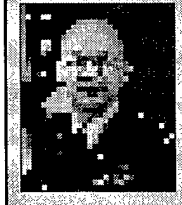
PRODUCT MANAGER SIDPERS-3

LTC Jenna Noble

PEO TACTICAL MISSILES

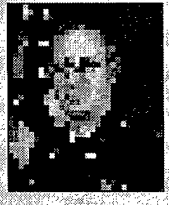
BG Willie B. Nance Jr.

PRODUCT MANAGER MPIM/SRAW



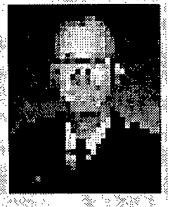
LTC Christopher F. Lesniak

PROJECT MANAGER JAVELIN



COL William D. Knox

PROJECT MANAGER MLRS

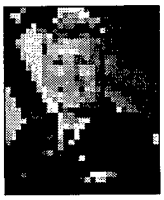


COL Steven W. Flohr

PEO TACTICAL WHEELED VEHICLES

Walter P. Wynbelt

PROJECT MANAGER MTV



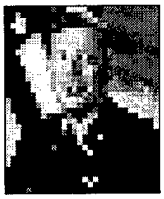
COL Kenneth R. Dobeck

PRODUCT MANAGER TWVRP

Photo Not Available

LTC George R. Schneller

PROJECT MANAGER HTV



COL James A. Wank

PROJECT MANAGER LTV

John D. Weaver

PEO BATTLE MANAGEMENT

John M. Gilligan

PROJECT MANAGER JSIMS

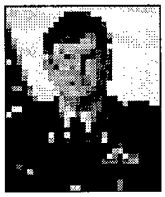
CAPT Drew Beasley (USN)

NATIONAL GUARD BUREAU

PEO RCAS

Maureen Lischke

PROJECT MANAGER RCAS

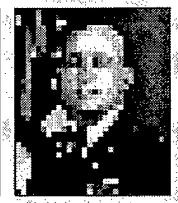


COL Sammy J. Cowden (Acting)

PROJECT MANAGER AGMS

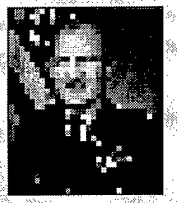
L Richard Savage

PRODUCT MANAGER LB HELLFIRE



LTC Jody A Maxwell

PROJECT MANAGER ATACMS-BAT

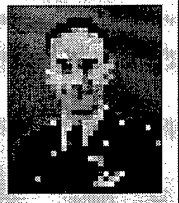


COL John W. Holly

PRODUCT MANAGER ATACMS BLK II

LTC Robert R. Reynolds

PRODUCT MANAGER IBAT



LTC Robert F. Arnone

PRODUCT MANAGER P-ATACMS

Patrick D. Linehan

PROJECT MANAGER CCAWS

LTC(P) Roger L. Carter

PRODUCT MANAGER FOTT

LTC Damian P. Bianca

PRODUCT MANAGER IBAS

LTC William I. Nichols

PRODUCT MANAGER ITAS

LTC Earl Sutton II

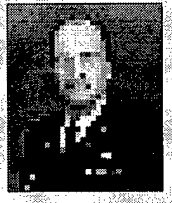
PRODUCT MANAGER IFCS

Frank C. ory (Acting)

PRODUCT MANAGER ILMS

LTC Glen C. Long Jr.

PRODUCT MANAGER MLRS PGM



LTC Steven J. Cox

PROJECT MANAGER NON-LINE OF SIGHT

COL Roy D. Millar

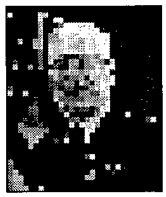
PRODUCT MANAGER STINGER BK I

LTC Tommie E. Newberry

PEO CRUISE MISSILES AND JOINT UAV

RADM Barton D. Strong (USN)

PROJECT MANAGER JTUAV

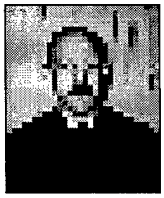


COL Michael I. Howell

PROJECT MANAGER MAE

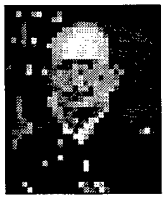
CAPT Timothy Hallihan (USN)

PROJECT MANAGER TCS



CAPT Allan Rutherford (USN)

PRODUCT MANAGER JTUAV-MANUEVER



LTC John H. Hug

DIRECT REPORTING TO THE ARMY ACQUISITION EXECUTIVE

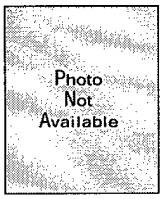
JOINT PROGRAM MANAGER BIOLOGICAL DEFENSE

BG John C. Doesburg

PRODUCT MANAGER JBPDS

LTC Mark L. Grotke

PROJECT MANAGER JVAP



Vacant

PROGRAM MANAGER CHEM DEMIL

MG Robert D. Orton

PRODUCT MANAGER ATA

LTC Steven M. Landry (Acting)

PRODUCT MANAGER CTR

Kevin J. Flamm

PROJECT MANAGER DEFENSE TRAVEL SYSTEM

COL Albert E. Arnold III

PROJECT MANAGER CSD

Richard W. Misiewicz

PROJECT MANAGER CSEP

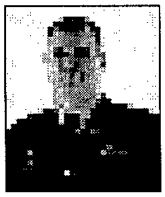
Donna C. Shandle

PROJECT MANAGER NSCM

COL Robert E. Hilliard (Acting)

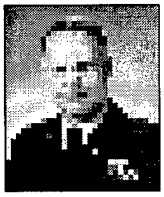
MAJOR COMMAND PMs SPECIAL OPERATIONS COMMAND ACQUISITION EXECUTIVE

PRODUCT MANAGER SOF MP



LTC Ronald J. Nelson

PRODUCT MANAGER MELB



LTC Bruce E. Gage

PRODUCT MANAGER TAPO

LTC David B. Cripps

NON-PEO PROGRAMS

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

PRODUCT MANAGER STOW-SEID

LTC William R. Johnson

NON-PEO PROGRAMS
(Continued)

DEFENSE INFORMATION SYSTEMS AGENCY

PROJECT MANAGER DISN

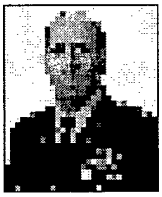
COL John O'Meally (USAF)

PRODUCT MANAGER DSIP

LTC Mark W. Jones

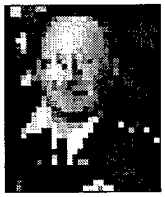
U.S. ARMY MATERIEL COMMAND

PRODUCT MANAGER ATC



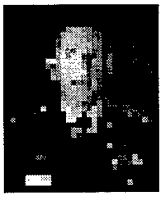
LTC Joseph A. Durso

PROJECT MANAGER CATT



COL Alan R. Hammond

PRODUCT MANAGER FAMSIM



LTC Charles R. Stevens

PRODUCT MANAGER CE/MHE

LTC Harry W. McClellan Jr.

PRODUCT MANAGER CH-47

James P. Winkeler

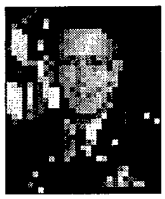
PRODUCT MANAGER COBRA

LTC James E. Weger

PROJECT MANAGER DCASS

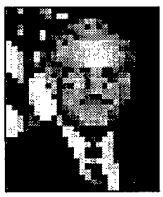
COL James McKan

PRODUCT MANAGER DDN



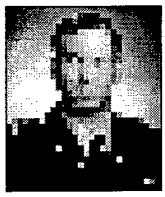
LTC Ronald Heuler

PROJECT MANAGER DCATS



Harvey J. Slovin

PRODUCT MANAGER DSCSI



LTC Wellsford V. Barlow Jr.

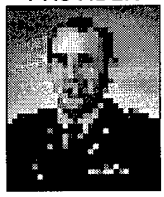
PROJECT MANAGER DIS

COL James Etchechury

PRODUCT MANAGER CAAN

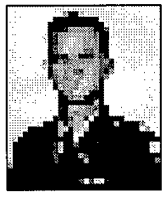
LTC Thomas E. Busby

PRODUCT MANAGER FORCE PROVIDER



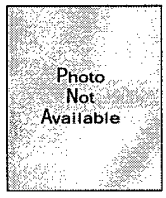
LTC Timothy C. Lindsay

PRODUCT MANAGER FOV



LTC R. David Ogg Jr.

PRODUCT MANAGER FWA

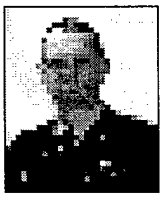


LTC William G. Lake Jr.

PROJECT MANAGER IM&TPR

COL Scipio de Kanter

PRODUCT MANAGER IMA MOD

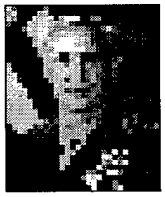


LTC David B. Bennett

PROJECT MANAGER ITTS

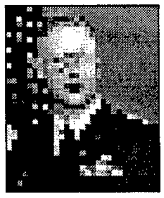
COL Mark W. Russell

PROJECT MANAGER LAV



COL K. H. Stivers (USMC)

PROJECT MANAGER MEP



COL James B. Cross

PRODUCT MANAGER MORTAR SYSTEMS

LTC L. Steve Davis Jr.

PROJECT MANAGER NBC DEF

COL John D. Nelson

PRODUCT MANAGER PWL

LTC Randolph A. Mathews

PROGRAM MANAGER SANG

BG Larry G. Smith

U.S. ARMY MATERIEL COMMAND (Continued)

PRODUCT MANAGER SCP

LTC Mary Fuller

PRODUCT MANAGER SMALL ARMS

Photo Not Available

LTC Wilfred E. Irish III

PRODUCT MANAGER SMOKE/ OBSCURANTS

LTC Christopher J. Parker

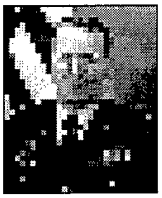
PROJECT MANAGER SOLDIER SYSTEMS

COL Philip E. Hamilton

PRODUCT MANAGER SOLDIER SUPPORT

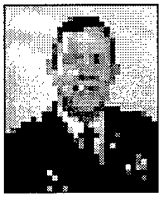
LTC Brian C. Keller

PRODUCT MANAGER SPO-1



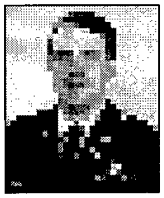
LTC Edward Major

PRODUCT MANAGER SPO 132



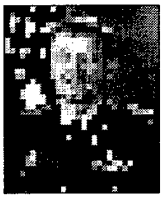
LTC Thomas Light

PRODUCT MANAGER SPO A2-02



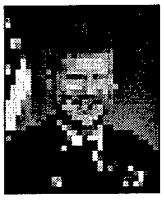
LTC Karl Wickizer

PROJECT MANAGER TAWS



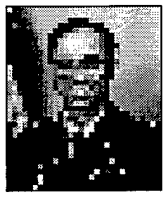
COL Roger A. Nadeau

PROGRAM MANAGER TMDE



COL Albert J. Hamilton

PRODUCT MANAGER ATSS



LTC James D. Wargo

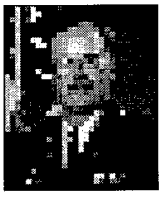
PRODUCT MANAGER TEMOD/ CALSETS

Wesley F. McElveen

PROJECT MANAGER TRADE

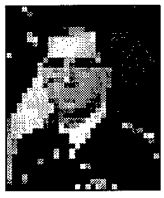
COL Noble T. Johnson

PRODUCT MANAGER ACTS



LTC Robert E. Hallagan

PRODUCT MANAGER GCTS



LTC Matthew J. Fair

PRODUCT MANAGER CSTS

LTC Stephen H. Kessinger

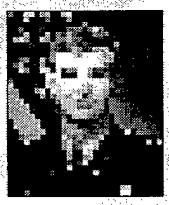
PROJECT MANAGER UGV

Photo Not Available

COL Jeffrey C. Kotora (USMC)

U.S. ARMY MILITARY TRAFFIC MANAGEMENT COMMAND

PRODUCT MANAGER TC ACCIS



LTC Michael C. Cox

PRODUCT MANAGER CFM

LTC Jacob N. Haynes

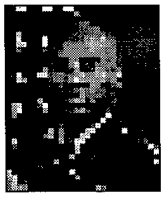
U.S. ARMY SPACE AND STRATEGIC DEFENSE COMMAND

PROJECT MANAGER AEROSTAT

Photo Not Available

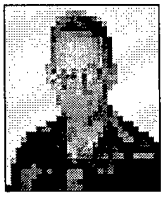
COL Herbert M. Carr III

PRODUCT MANAGER EADTB



LTC Phillip Macklin

PRODUCT MANAGER STPO



LTC L. Taylor Jones III

PRODUCT MANAGER TTPO

LTC(P) Edmund W. Libby

ACRONYMS

AAH — Apache Attack Helicopter
ACIS — Aircrew Integrated Systems
ACS — Aerial Common Sensor
ACTS — Air and Command Training Systems
ADCCS — Air Defense Command and Control Systems
AEC — Aviation Electronic Combat
AFATDS — Advanced Field Artillery Tactical Data Systems
AGMS — Air-to-Ground Missile Systems
AIT — Automatic Identification Technology
APACHE MOD — Apache Modernization
ASAS/SFT — All Source Analysis System/ Software
ATA — Alternative Technologies and Approaches
ATACMS-BAT — Army Tactical Missile System - Brilliant Anti-Armor Submunition
ATACMS BLK II — Army Tactical Missile System - Block II
ATC — Air Traffic Control
ATSS — Automatic Test Support Systems
BFIST — Bradley Fire Support Vehicle
BFVS — Bradley Fighting Vehicle Systems
BFVS/C^{2}V — Bradley Fighting Vehicle Systems Command and Control Vehicle
BM/C^{3}I — Battle Management/Command, Control, Communications and Intelligence
C^{3}S — Command, Control and Communications Systems
CAAN — Combined Arms Assessment Network
CATT — Combined Arms Tactical Trainers
CCAWS — Close Combat Anti-Armor Weapon System
CCSS — Comanche Crew Support System
CE/MHE — Construction Equipment and Materials Handling Equipment
CFM — CONUS Freight Management
CHEM DEMIL — Chemical Demilitarization
CHS — Common Hardware/Software
CID — Combat Identification
COMM MGT SYS — Communications Management Systems
COMMON SW — Common Software
CR ARM —Crusader Armaments
CR MOB —Crusader Mobility
CR MUN/RES — Crusader Munitions/Resupply
CSAM/MEADS — Corps Surface-to-Air Missile/Medium Extended Air Defense System
CSD — Chemical Stockpile Disposal
CSEP — Chemical Stockpile Emergency Preparedness
CSSCS — Combat Service Support Control System
CSTS — Combat Support Training Systems
CTR — Cooperative Threat Reduction
CVSMP — Combat Vehicle Signature Management Program
DCASS — Defense Communications and Army Switched Systems
DCATS — Defense Communications and Army Transmission Systems
DDN — Defense Data Networks
DIS — Distributed Interactive Simulation
DISN — Defense Information Systems Network
DMS — Defense Management System
DSCS CONTROL — Defense Satellite Communications System Control
DSCS TERMINALS — DSCS Terminals
DSCSI — Defense Satellite Communications System Installations
DSIP — DISN System Integration Project
DTS — Defense Travel System
EAD C^2 — Extended Air Defense Command and Control
EADTB — Extended Air Defense Test Bed
EPLRS — Enhanced Position Location Reporting System
FAAD C^2 — Forward Area Air Defense Command and Control
FAAD GBS — Forward Area Air Defense Ground Based Sensors
FAMSIM — Family of Simulations
FATDS — Field Artillery Tactical Data Systems
FCR — Fire Control Radar
FOTT —Follow-On-To-TOW
FOV — M11 3/M60 Family of Vehicles
FWA — Fixed Wing Aircraft
GBCS/AQF — Ground Based Common Sensor/Advanced QUICKFIX
GCSS — Ground Combat Support Systems
GCTS — Ground Combat Training Systems
GEN II FLIR — Second Generation Forward Looking InfraRed Technology Integration
GPS — Global Positioning Systems
GSI — Ground Systems Integration
HTV — Heavy Tactical Vehicles
IBAS —Improved Bradley Acquisition Subsystem
IBAT — Improved Brilliant Anti-Armor Submunition
IEW&S — Intelligence, Electronic Warfare and Sensors
IFCS — Improved Fire Control System
ILMS — Improved Launcher Mechanical System
ILOGS — Integrated Logistics Systems
IM&TPR — Information Management and Telecommunications, Pentagon Renovation
IMA-MOD — Fort Belvoir Information Mission Area Modernization

ACRONYMS (Continued)

IMP-ATACMS — Improved Army Tactical Missile System
INFO WARFARE — Information Warfare
INTEL FUSION — Intelligence Fusion
ITAS — Improved Target Acquisition System
ITTS — Instrumentation, Targets and Threat Simulators
JBPDS — Joint Biological Point Detection System
JCALS — Joint Computer Aided Acquisition and Logistics System
JCMT — Joint Collection Management Tools
JLW-155 —Joint Lightweight 155mm Howitzer
JRISS — Joint Recruiting Information Support System
JSIMS — Joint Simulation Systems
JSTARS/GSM — Joint Surveillance Target Attack Radar System/Ground Station Module
JTACS — Joint Tactical Area Communications Systems
JTAGS — Joint Tactical Ground Station
JTIDS — Joint Tactical Information Distribution System
JTT/CIBSM — Joint Tactical Terminal/Common Integrated Broadcast System Module
JTUAV — Joint Tactical Unmanned Aerial Vehicles
JVAP — Joint Vaccine Acquisition Program
LAV — Light Armored Vehicles
LB APACHE — Longbow Apache
LB HELLFIRE — Longbow HELLFIRE Modular Missile System
LTV — Light Tactical Vehicles
M1A1 — M1A1 Abrams Tank System
M1A2 — M1A2 Abrams Tank System
M2A2/M2A3 BFVS — M2A2/M2A3 Bradley Fighting Vehicle Systems
MAE — Medium Altitude Endurance (Predator)
MCD — Mines, Countermine and Demolitions
MELB — Mission Enhancement - Little Bird
MEP — Mobile Electric Power
MLRS — Multiple Launch Rocket System
MLRS PGM — Multiple Launch Rocket System Precision Guided Munitions
MPIM/SRAW — Multi-Purpose Individual Munition/Short Range Assault Weapon
MTV — Medium Tactical Vehicles
MTVR — Medium Tactical Vehicle Remanufacture
NBC DEF — Nuclear, Biological, Chemical Defense Systems
NMD — National Missile Defense
NSCM — Non-Stockpile Chemical Materiel
NWRSTA — Night Vision/Reconnaissance Surveillance and Target Acquisition
OPTADS — Operations Tactical Data Systems
PAC-3 — PATRIOTAdvanced Capability - Third Edition
PALADIN/FAASV — Paladin/ Field Artillery Ammunition Support Vehicle
PEO — Program Executive Officer
PERMS — Personnel Electronic Record Management System
PWL — Petroleum and Water Logistics
RCAS — Reserve Component Automation System
SAAS — Standard Army Ammunition System
SADARM — Sense and Destroy Armor
SAMS — Standard Army Maintenance System
SANG — Saudi Arabian National Guard Modernization Program
SARSS — Standard Army Retail Supply System
SATCOM — Satellite Communications
SBA — Sustaining Base Automation
SCP — Small Computer Program
SIDPERS-3 — Standard Installation/Division Personnel System
SINCGARS — Single Channel Ground and Airborne Systems
SOF MP —Special Operations Forces Mission Planning
SPBS-R — Standard Property Book System - Redesigned
SPO — Special Projects Office
STACCS — Standard Theater Army Command and Control Systems
STAMIS — Standard Army Management Information Systems
STCCS — Strategic and Theater Command and Control Systems
STOW-SKID — Synthetic Theater of War - Systems Engineering, Integration and Demonstration
STPO — Strategic Targets Product Office
SW — Signals Warfare
TACCIMS — Theater Automated Command and Control Information Management System
TACSAT — Tactical Satellite Terminals
TAPO — Technology Application Program Office
TAWS — Tank Automotive Weapon Systems
TC ACCIS — Transportation Coordinator Automated Command and Control Information System
TCS — Tactical Control System
TEMOD/CALSETS — Test Equipment Modernization/Calibration Sets Equipment Program
TESAR — Tactical Endurance Synthetic Aperture Radar
THAAD — Theater High Altitude Area Defense
TMAS — Tank Main Armaments Systems
TMDE — Test Measurement and Diagnostic Equipment
TRADE — Training Devices
TRCS — Tactical Radio Communications Systems
TRI-BAND — Tri-Band Satellite Communications Terminals
TTPO — Theater Targets Product Office
TUV — Tactical Unmanned Vehicles
TWVRP — Tactical Wheeled Vehicles Remanufacture Program
UAV — Unmanned Aerial Vehicles
UGV — Unmanned Ground Vehicles
ULLS — Unit Level Logistics System
VTC — Vehicle Teleoperation Capability

THE ARMY RESEARCH INSTITUTE AND THE CONSORTIUM OF UNIVERSITIES

By Dr. Edgar M. Johnson and Dr. Robert S. Ruskin

Introduction

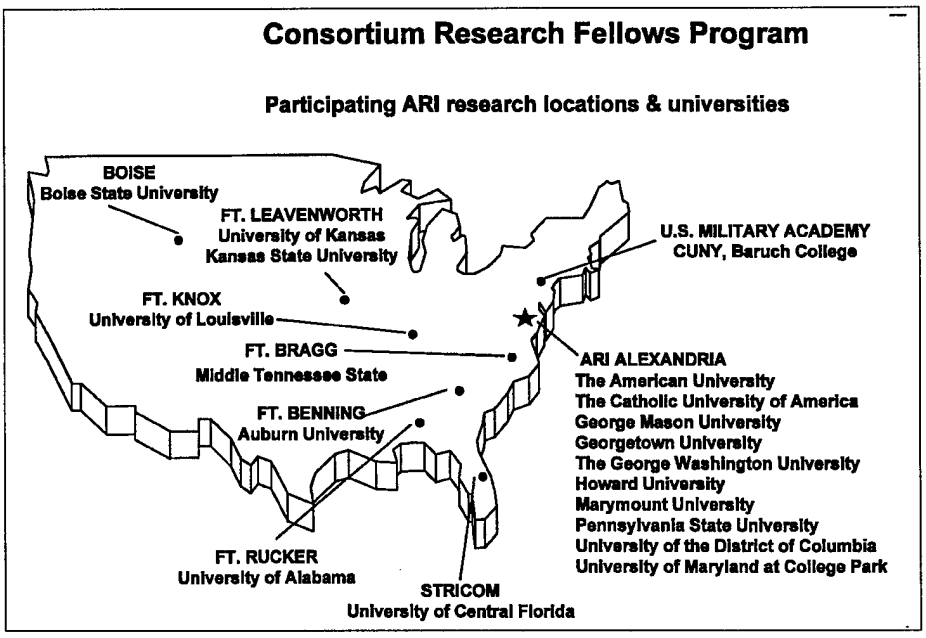
The continued health of our national research and development effort rests upon the training of young scientists. Increasing the productivity of our laboratories is also crucial. The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) and the consortium of Universities of the Washington Metropolitan Area cooperate in a partnership which addresses both training and productivity.

Consortium Research Fellows Program

The Consortium Research Fellows Program (CRFP) is funded by ARI and managed by the consortium. It links the academic behavioral and social science community with ARI's program of research into issues of human performance, training, selection and classification, and leadership as they pertain to the U.S. Army. The resultant sharing of information, ideas, and expertise strengthens both education and research in the behavioral and social sciences and contributes materially to ARI's mission.

The CRFP began in October 1981 with just a few graduate students being awarded research fellowships at ARI. Since then, it has grown to include a current class of 65 graduate students and two undergraduates and has involved faculty members and campus labs in research of interest to ARI.

Universities and colleges around the country are home to a wealth of talented students and faculty. The CRFP has been fortunate in the participation of the following schools: The American University, Auburn University, Augusta College, Baruch College (City University of New York (CUNY)), Boise State University, the Catholic University of America, George Mason University, The George Washington University, Georgetown University, Georgia Institute of Technology, Howard University, Kansas State University, Marymount University, Middle Tennessee State University, New Mexico State University, Pennsylvania State University, University of Alabama, University of Central Florida, University of the District of Columbia, University of Georgia, University of Kansas, University of Louisville, University of Maryland at College Park, University of Texas—El Paso, and Western Kentucky University. Participating schools are shown in the accompanying map.



Central Role Of Students

Graduate students are at the heart of the partnership. By far the largest and most important activity is the placement of graduate students as Consortium Research Fellows (CRFs) at ARI. A few undergraduates are also placed. Each student is assigned by the director of the CRFP to an ARI research team,and works closely with one scientist, who serves as the student's mentor. The director remains closely involved in the overall supervision of each CRF and constantly monitors fellow/mentor research activities. CRFs are immersed in their teams' research, participating in literature reviews, experimental design, data collection and analysis, computer programming, report writing,and many other activities. ARI scientists gain substantial technical and analytical assistance. Research fellows acquire excellent experience in research theory and practice and also receive financial support.

Candidates for fellowships are recommended by their departments, screened by the director of the CRFP, and interviewed by researchers at ARI. Those who are accepted into the program work 10-20 hours per week during the school year and up to 40 hours per week during the summer. Research fellows remain at ARI for one to three years.

Since its inception, the CRFP has placed 280 CRFs at ARI headquarters in Alexandria, VA, and at 10 of its field units. CRFs have come from 23 universities in 13 states and the District of Columbia. The majority have been graduate students in psychology. Others have come from departments of sociology, computer science, economics, education, engineering, information systems,linguistics,mathematics, and operations research.

CRFs are drawn from a variety of ethnic groups, and have included 22 percent minorities. Fifty-six percent have been female, 44 percent male.

ARI Researchers Are Mentors

Mentors are critical in this partnership. They provide daily research guidance and advice to the CRFs. This one-to-one relationship maximizes the students' usefulness to ARI research teams while encouraging their growth as young professionals. At times, nothing is more inspiring to a student than to work with a successful scientist who has made it through the sometimes grueling experience of graduate school—especially when that scientist takes the time to sit down and talk, share experiences and give advice,and take an interest in the student's progress. Mentors are encouraged by ARI and the consortium to emphasize the continuing development of fellows as researchers by teaching and nurturing and also by expecting the students to work hard,stretch their limits,and produce high-quality results.

Recently, Ross Teague,a graduate student in the Human Factors Psychology Doctoral Program at George Mason University, made the following comments about experiences working with his mentor, Dr. Ok-Choon Park, in the Advanced Training Methods Research Unit at ARI. "The longer I work at the U.S.Army Research Institute, the clearer it becomes to me that I am part of a reciprocal relationship. While I have helped ARI carry out research, my work with ARI and my mentor has created many growth opportunities for me. In my tenure as a consortium research fellow, I have worked on a variety of research endeavors including mental model assessment, stress and its effects on perfomance, and computer-based instruction development. Perhaps most valuable to me has been the first-hand experience I have gained from designing,developing, and carrying out research protocols; from the analyzing of data to the writing of reports and journal articles. As an extension of the work I am involved in, I have developed a study that will be used first, as my dissertation topic,and secondly as a means of furthering the Army's understanding of combat skill training and its use in preparing individuals for performance in demanding,potentially stressful environments. The development of my dissertation topic has been an example of the 'two-way street' nature of this relationship.

"I owe much of what I have learned and experienced to my mentor, Dr. Ok-Choon Park. Our relationship is more of a collegial one in which my autonomy and free thinking are encouraged. Not only have I been able to apply what I have learned in the classroom to real-world settings, I have developed my career potential and gained important knowledge and skills in my field."

Major Contributions By Fellows

Fellows contribute in many ways to their teams' research. One mentor, Dr. Jon Fallesen of ARI's Fort Leavenworth Research Unit, compared the program's benefits to combat multipliers, "For our research in battle command and critical thinking,the consortium personnel are research multipliers. Prior to having consortium assistance, potential research ideas would die on the vine because of a lack of time to explore them." Dr. Fallesen reports that he likes to propose to his fellow, Julia Pounds, a Kansas State University graduate student, new research issues that come up but cannot be attacked immediately by ARI scientists because of near-term demands. "The consortium students provide an invaluable service to ARI and to the Army because with minimal guidance they can do some of the fundamental background research that we otherwise would not be able to resource."

Dr. Martha Lappin of ARI's Organization and Personnel Resources Research Unit also noted the contributions of CRFs, saying, "Without consortium students,the work of our research team would come close to a grinding halt. With all of the organizational-level time-consumers that I must attend to each week, it is the consortium students who ensure we are accomplishing our real mission—research on the recruiting, selection,and training of Special Forces (SF) soldiers. The CRFs are energetic, motivated, and knowledgeable about research.These students participate not only in carrying out research agendas but also in creating and developing them."

Two George Mason University graduate students,Michelle Zazanis and Marisa Diana, have worked with Lappin's team for three years and been involved in projects ranging from large-scale database management to the development of a video-based training program for the SF cadre that assesses SF recruits. Recognizing the contribution of their work on this training program, the Commanding General of the SpecialWarfare Center and School awarded them the Commander's Award for Public Service in 1993. This is an unusual and highly-regarded award; a testament to their ability to listen to and work with soldiers and provide solutions to real-world problems.

Most recently, Zazanis has conceptualized a peer evaluation project. It will allow the team to develop recommendations concerning effective use of peer evaluations in performance counseling and evaluation in Special Forces assessment and selection. Examined through a theoretical lens, this research brings into focus some of the fuzzy issues surrounding performance assessments. From a methodological perspective, the research combines rigorous standards with a data collection strategy that clearly minimizes the burden on assessors. At the same time, researchers can pilot-test the practical utility of the research instruments. From an applied perspective, the research reflects the concerns, constraints, and real-time requirements of the 1st Special Warfare Training Group. Zazanis has managed this project from the early planning stages and coordination with the sponsor through the data collection and analyses. Dr. Lappin remarked, "Ms. Zazanis will leave as her legacy not only the results and products of her research,but also the goodwill she created at the Special Warfare Center and School through her ability to develop and maintain a collegial, collaborative research relationship."

Faculty Members Engaged

Faculty members also become involved in the partnership when they are engaged as senior consortium research fellows. Senior fellows are brought in on short-term tasks for which expertise is not currently available at ARI, allowing a quick response to unexpected research requirements. While serving only a few days, senior fellows can have a major impact. They not only bolster ARI's program of research, but

Left to right are Dr. Ray Perez, Advanced Training Methods Research Unit, ARI, with Consortium Fellows David Minionis, Stuart Gittleman, Stephen Zaccaro and Julie Johnson.

also keep communication open between the institute and campuses,building the potential for expanded information exchange and additional joint research. This activity has been useful in supplementing and augmenting ARI's normal competitive contracting process.

The usefulness of the senior fellows is evidenced in a recent activity. ARI needed a rapid, outside assessment of some leadership research products. The consortium identified Professor Robert Lord of the University of Akron to assist in the assessment. Professor Lord was able to begin his assessment within 24 hours of ARI's initial request for help.

Research On Campus

Research on campus encourages further interaction between ARI and the academic community. The CRFP helps extend ARI's research facilities through the use of campus laboratories. ARI scientists and university faculty develop and carry out projects which have specific, practical outcomes, and also encourage additional sharing of information and transfer of technology. Several projects have been completed at the Catholic University of America, George Mason University, the University of Maryland at College Park, and the University of the District of Columbia.

Faculty and campus cooperation is exemplified by recent activities at the University of the District of Columbia (UDC). UDC's efforts are based in its Scientific Parallel Processing Applied Research Center (SPPARC), which has research capabilities in the social and physical sciences and in technology. A study of the enlistment propensity of African-American youth was undertaken in a public school in Washington, DC. This study was followed by another that explored the capabilities of neural networks for determining various types of relationships between predictor and outcome variables using the Armed Forces Qualifications Test and the data set for one military occupational specialty—infantryman. Subsequently, faculty serving in SPPARC provided assistance to an ARI scientist studying the impact of peer influence on such decisions as going to college, material vs.service values, and the Armed Forces.

The ARI-UDC partnership has other important consequences, as noted by researchers who are involved. Dr. Anne Hughes, a researcher at SPPARC, commented, "The undergraduate students participating as consortium fellows are gaining the kinds of 'hands-on' experiences in research that often come only at the graduate level." Both ARI and UDC scientists are broadening their perspectives in social research and technology as they work together on studies. Said Dr. Joel Savell of ARI's Organization and Personnel Resources Research Unit, "ARI has new windows on the concerns, aspirations and perceptions of minority students and on a new technology, neural networks, for large-scale problems of analysis and prediction." Dr. Daryao Khatri, another researcher at SPPARC, praised "the new opportunities for UDC's scientists to use their knowledge and expertise in creative ways."

Advantages

Both partners benefit from the Consortium Research Fellows Program.The academic community receives opportunities for professional development and financial support. In 1994,112 students received practical training, 12 faculty members were involved in ARI research, and three campus labs carried out research tasks. During that same year, more than 30 publications were co-authored by consortium research fellows and ARI scientists. Many students have been able to complete dissertation research in conjunction with their assignments at ARI, and numerous mentors have served on dissertation committees.

Research fellows, in part because of the added research experience and strong career guidance afforded by their mentors,are more likely to complete their degrees than others. Among the students who have completed fellowships at ARI during the past 13 years, 93 percent have either graduated with a degree or are still actively enrolled in graduate school. This compares favorably to results of a 1992 survey by the American Psychological Association (APA). APA's data show that of doctoral students in psychology who started graduate school in 1985,78 percent had received a degree or were still enrolled. They found that those seeking master's degrees fared slightly better: of those starting in 1988,80 percent had graduated or were still enrolled.

The CRFP also reduces the financial burden of obtaining an education. A graduate student working the full complement of hours earns from $14,300 to $20,150 per year, depending upon level of educational experience. Additionally, several schools have granted reductions in tuition to students who are awarded fellowships.

But the benefits don't only flow toward the campuses. The CRFP extends ARI's in-house research capabilities and develops young scientists for possible future recruitment as regular ARI personnel. During 1994,students provided over 81,000 hours (39 person-years) of scientific assistance to ARI. Faculty provided 150 days of expertise and six research studies were carried out in campus labs. Thirteen former fellows have been hired by ARI, many have taken other federal research positions upon their graduation, and all have an understanding of applied research and the needs of the Army.

A less tangible,but possibly more important benefit, is the intellectual growth and stimulation which occurs when fellows and mentors work together. The CRFP creates an open laboratory, enabling researchers to take advantage of emerging research developments in the university. Students challenge and question ideas, requiring their mentors to better articulate their research, identifying and correcting any errors, as they explain it. The resulting intellectual atmosphere strengthens the research by facilitating the best possible research.

Partnerships like this one help keep America's research and development efforts strong by providing a cost-effective leveraging of resources which enhances the national research effort,both now and for the future. Students become more knowledgeable about Defense-related research and add to the country's available scientific talent. Federal researchers accomplish their goals more efficiently and develop new areas of inquiry. Transfer of technology accelerates and the science and technology pool is strengthened. When the higher education and federal research communities cooperate, everyone benefits.

DR. EDGAR M. JOHNSON is the Director of the U.S. Army Research Institute for the Behavioral and Social Sciences and Chief Psychologist of the Army.

DR. ROBERT S. RUSKIN is the Director of the Consortium Research Fellows Program.

From Industry...

ARMY ACQUISITION

The Road to Reform

By John A. McLuckey
President and Chief Operating Officer
Aerospace and Defense
Rockwell International Corporation

EDITOR'S NOTE: The following article is adapted from a speech by John A. McLuckey, President and Chief Operating Officer, Aerospace and Defense for Rockwell International Corporation, at the Association of the U.S.Army's Acquisition Reform Symposium held last fall in Falls Church, VA.

I'd like to start by thanking Gil Decker [Assistant Secretary of the Army (Research, Development and Acquisition)] for the opportunity to participate in this symposium. I'm encouraged to see representation at this meeting expanding beyond the Army and industry to include DOD and Congress, as well. It reflects the progress we've made, but it also reflects the fact that it will take a concerted effort by all parties to make the next major acquisition reform steps.

Today, I'm going to quickly cover these four areas:

- I'll discuss the pluses and minuses of a couple of Army acquisition reform examples where I have had personal experience.
- I'll give an industry view of some of the challenges and benefits of consolidating acquisition reform DOD-wide.
- I'll discuss a subject with a lot of potential—"Best Value" awards.
- And,I'll wrap things up with some suggestions on ways to improve the stability of the procurement process as a whole.

The two acquisition reform examples I'll discuss are the Secure Mobile Anti-Jam Reliable Tactical-Terminals (SMART-T) and Single-Channel Anti-Jam Man Portable (SCAMP) satellite communications terminal programs. (See Figure 1.) Back in 1992, when these were development procurements they broke a lot of new ground—and, in fact, became models for subsequent programs. They implemented many of the U.S.Army Materiel Command's Roadshow II initiatives—electronic bulletin boards; and streamlining through reductions in Contract Data Requirements Lists, Government Furnished Equipment, and testing requirements. Now that both of these programs are entering the production procurement phase, it's time to assess how they've progressed.

In the case of SMART-T, we have seen a major reduction in mil-specs and standards. In fact, in responding to the draft Request for Proposal (RFP), we recommended deletion of 60 mil-specs and standards, and the Army went a step further and eliminated three additional specs. Clearly, the Army has taken the Perry [Secretary of Defense William Perry] initiative to heart. I can't speak too specifically about SMART-T because the official RFP is now on the street, but in general, my people have been very impressed by the efforts by the Army to make change across the board.

Both industry and the Army also seem to agree that future improvement opportunities exist in the areas of test,environmental and logistics requirements. Bringing these organizations into the process sooner should help in those areas.

Similarly, there has been significant progress on the SCAMP program. However, since this is a non-development item (NDI) type of procurement, we feel the process could have been streamlined. An actual NDI solution was demonstrated in June of 1994, but because the procurement is following the standard process of full proposal, demonstration and Best and Final Offer, it will take 16 months just for the bid. Fielding of the first SCAMP will be 39 months after the initial NDI demonstration. Perhaps in future NDI procurements, we can use a more commercial-like, fast-track approach.

One other example of acquisition reform I'd like to discuss is to compliment the Army, and specifically, Gil Decker for his leadership role in capitalizing on commercial pricing for the Precision Lightweight Global Positioning System (GPS) Receiver Plus (PLGR+). For those of you not familiar with the program, PLGR+ is the upgraded version of the Precision Lightweight GPS Receiver, the DOD's standard handheld GPS receiver. Late last year, Rockwell delivered

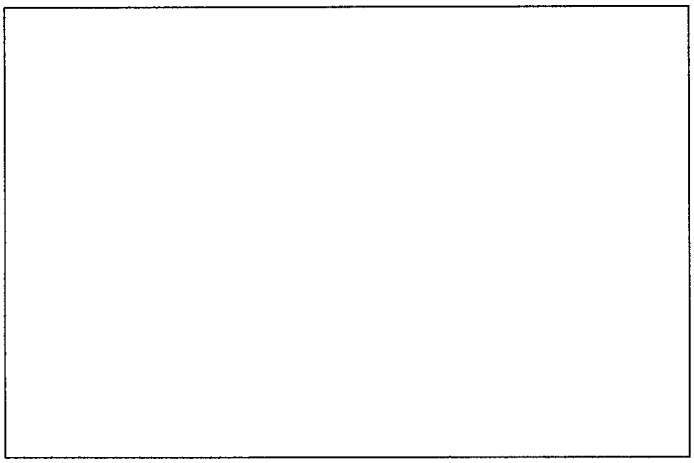


Figure 1.

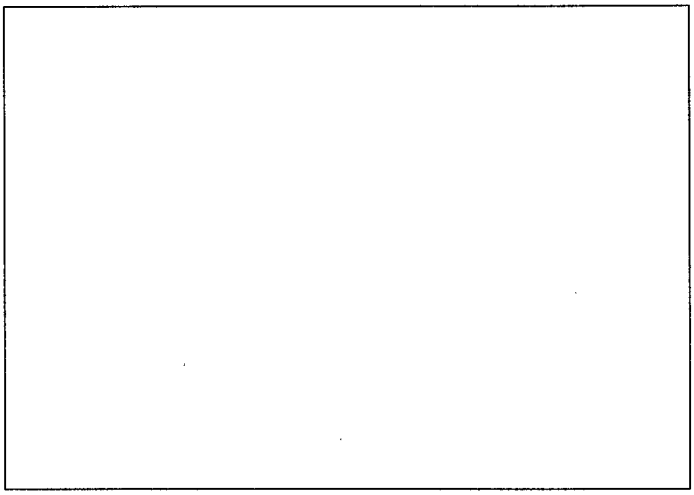


Figure 2.

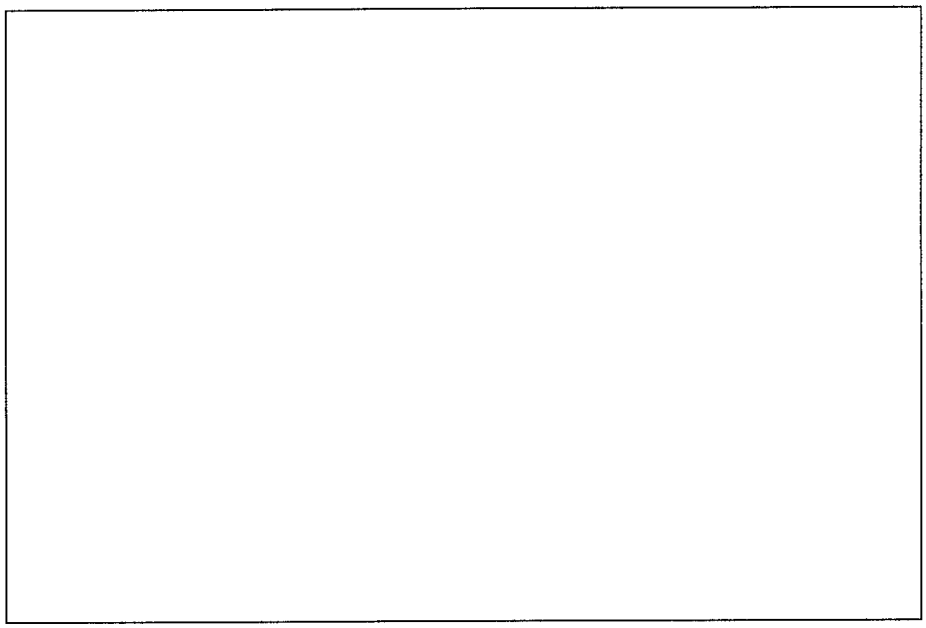


Figure 3.

the 50,000th unit of a 94,000 unit, four-year buy. But as you all know, four years is like an eternity in this day and age of rapid technological advance. We continued to improve the PLGR for the international and commercial markets (hardware and software) as illustrated in Figure 2. We more than doubled the battery life (27 hours vs. 10 hours); increased the way points from 99 to 999;and increased route options from one to 15.

The key to taking advantage of those improvements was that the Army embraced the spirit of the Federal Acquisition Streamlining Act (FASA) (before the final regulations were issued) to base their pricing decision on value instead of cost.

If we had gone the traditional route of a formal ECP, we would have lost 12 to 18 months and missed the opportunity to incorporate the upgrades into the remainder of the units. It was a win-win-win situation for the user in the field,the contractor, and for acquisition reform.

Earlier, I commented on how pleased we were that the DOD is taking the lead to consolidate acquisition reform. It's a sorely needed step to get up beyond this transition we're going through. The good news is that each Service is adopting acquisition reform as an initiative. The bad news is that each Service is implementing it differently. As I, and others, have discussed at previous conferences, the way we will get major improvements is if we can make systemic changes.

There are many benefits to a coordinated effort among the Services. The issue is that most of the Army's suppliers also supply the other Services as well (often out of the same plant). Clearly, a contractor in this situation could end up with more complex requirements than we now have. As I've said we're in a transition phase (one that we're all struggling with),but this is where DOD can help. The current Pilot Plant and Block Change initiatives represent the kind of systemic changes that need to be made on a broader scale. We commend the DOD for initiating the Pilot Plant program and are pleased that the Congress followed through with the enabling legislation.

To make the Block Change initiative a success,one person should be given the authority to approve waivers for changes across the Services. Otherwise, the businesses have to deal with multiple agencies and it turns into a never-ending cycle. A few of the areas where the Services often have different requirements are: material procurement; manufacturing processes (such as build and test);and past delivery support (warranty). Major savings can be achieved in these areas alone.The DOD implemented the Single Process Initiative in December 1995 which incorporates this and other industry recommendations for an effective Block Change process.

Another area where we're going through a transition is in Best Value awards. We've all recognized for years that a simple low-price approach is not always the best course of action. We've also recognized that it's easier to choose that way (just open the envelope), and a Best Value approach can be very subjective. I have a couple of suggestions on how to make Best Value choices more objective in the two areas of past performance and risk assessment.

The use of past performance data should streamline the proposal process. Used effectively, it should allow competitors to be "prequalified"and eliminate the need for redundant proposal material. To realize that potential,a few issues need to be addressed. We need a system to ensure consistent evaluation of past performance, across commands and across Services. Another issue we need to address is how to revise or update the evaluations. The use of relevant experience also needs to be addressed,and we need to make provisions to eliminate past performance on disputed items.

Looking at "Risk Assessment," we all know some selections are easy. Two kinds of selections are:

- When the highest-scoring technical proposal is also the lowest price, or
- When competing proposals are technically equal and one is lower in price.

The challenge arises when the lowest-price proposal scores lower in technical merit than the higher-cost proposal.

The single biggest way to enhance the Best Value process is to clearly identify price/technical tradeoffs early. Unclear, or late, identification of preferences leads to widely divergent proposals. The Services then tend to "technically level"the competitors because they are so different and end up awarding based on lowest price after all. Early identification of tradeoffs will lead to more directly competitive proposals—which will give the Service easier choices and reduced protests.

To wrap things up, I'll briefly discuss some suggestions to improve the stability of the procurement process. (See Figure 3.) What I've tried to do with this chart is to show that the process is a two-way street, and to be successful we must work together as a team. For instance, early identification of requirements and avoiding starts and stops by the Army and DOD would allow industry to gear our IR&D and broader resources to most effectively meet your needs. Next, multi-year funding could be one of the biggest stabilizers. Of course, this would require Congress to cooperate, but the potential for improved performance and reduced costs should help convince them it's the right approach. At a minimum, we should be able to use multi-year funding on some major, long-term programs like Theater Missile Defense production on the PATRIOT Advanced Capability-Third Edition and Theater High Altitude Area Defense systems. On a related note, we ask for a reduced RFP cycle time and more NDI procurements. But industry must be innovative and creative,and adopt commercial practices. We often ask the Army and the other Services to keep a consistent emphasis on what's important, but then we don't give you meaningful comments in response to draft RFPs. Somehow we have to break down that wall by eliminating the fear of penalty.

We also ask for more trust and reduced oversight,but we need to earn it by delivering as contracted. Then the word metrics is shown on both sides in Figure 3.It's one of my favorite subjects and I'm pleased to see the DOD expand on the Army's pioneering efforts by developing DOD-wide metrics.

Finally, the bottom line is that if we do all the above mentioned things, we will end up with an enduring,attractive market that will allow us to effectively replenish our technical and human resources and provide you with world-class support.

CONTRACTOR SELF-OVERSIGHT

A Joint DOD, Industry Experiment

By Steve Titunik,
LTC Dwight Thomas
and COL Edward Cerutti

Background

One of the key goals of acquisition reform is to improve contract administration within the Department of Defense (DOD). Dr. Paul Kaminski, the Under Secretary of Defense for Acquisition and Technology (USD(A&T)), in a memorandum dated Aug. 21, 1995, detailed several specific plans with that objective in mind. His memorandum titled "Implementing More Efficient Oversight of Defense Contractors," listed recommendations from a process action team chartered by the Deputy Under Secretary of Defense (Acquisition Reform) with the goal of improving contract administration processes and procedures.

The team advocated that DOD charter a pilot program to test the idea of contractor self oversight (CSO). The concept would allow 'quality contractors' the opportunity to have their personnel perform surveillance functions in lieu of DOD personnel. Kaminski directed Air Force MG Robert Drewes, Commander of the Defense Contract Management Command (DCMC), to assume the lead, and to have DCMC "serve as the office of primary responsibility for the CSO pilot program,which will identify contractor representatives to monitor contractor operations and products to ensure compliance with contract technical,quality and systems requirements." The pilot program's purpose is to develop CSO procedures;develop criteria for success; test CSO procedures; and evaluate CSO efficacy.

DCMC has stepped up to the challenge and, in conjunction with the Service Acquisition Executives and the Defense Logistics Agency's Deputy Director for Acquisition, has conducted discussions with industry and program offices. A total of 16 contractors and 21 government programs are involved in the experiment. Participating Army programs include Apache, Patriot and Multiple Launch Rocket System.

Scope

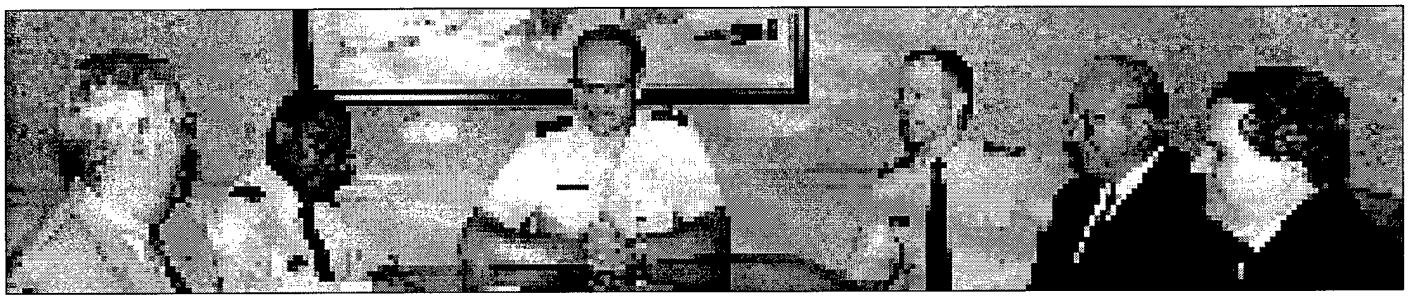
The CSO program provides a general framework for testing the feasibility and effectiveness of relying on designated contractor personnel to perform certain on-site oversight tasks which may enable reduced presence by DCMC personnel. Designated contractor personnel serving in this capacity are referred to as technical compliance designees (TCDs). Participating contractors agree to measure their direct costs throughout the experiment, and provide comparisons of their costs associated with conventional DCMC oversight versus costs during the experiment. Similarly, DCMC will measure their costs against a similar, non-CSO period. A comparison of these costs will be part of the success criteria of the experiment.

The AMRAAM/DCMC/ Raytheon Electronic Systems CSO Plan

Raytheon Electronic Systems (RES) and one of its customers, the Advanced Medium Range Air-to-Air Missile program (AMRAAM), will participate in the experiment. Air Force COL Richard L. Dickson, the AMRAAM Program Manager, ensured that the CSO program was piloted at both contractors which produce AMRAAM missiles: Raytheon Electronic Systems at Bedford, MA, and Hughes Missile Group, at Tucson, AZ.

Raytheon has plants in both Massachusetts and Pennsylvania working on the AMRAAM missile. As a result, participating in the AMRAAM/RES CSO experiment from the DCMC perspective are both DCMC Raytheon, located in Burlington, MA, and DCMC Reading,located in Reading, PA. On Aug.16,1996,the RES/DCMC Raytheon and DCMC Reading CSO program was launched with a joint signature ceremony by the RES Air-to-Air Missiles PM, J. S. Wilson; the RES Product Assurance Manager, Eugene Stockton; the AMRAAM PM, COL Dickson (USAF); the DCMC Raytheon Commander, COL Edward A. Cerutti; and the DCMC Reading commander, LTC Dwight Thomas.

The scope of the experiment includes all AMRAAM products to include domestic



Shown (left to right) at the AMRAAM CSO signing ceremony at Raytheon Electronic System are J.S. Wilson, RES Air-to-Air Missiles PM; LTC Dwight Thomas, DCMC Reading Commander COL R.L. Dickson, AMRAAM PM; COLEdward Cerutti, DCMC Raytheon Commander; Eugene Stockton, RES Product Assurance Manager; and Steve Titunik, Deputy Manager, DCMC Raytheon Technical Assessment Group.

and foreign missiles and spares hardware, pre-planned product improvement development, and field return repairs. Locations are all AMRAAM specific assembly, test and development processes at Andover, MA, and Letterkenny, PA Final Assembly and Check-Out.

Raytheon/DCMC Roles And Responsibilities

Raytheon TCDs will conduct a variety of roles previously performed by DCMC personnel. These include, but are not limited to: process audits, witnessing of tests, production reliability acceptance test sample selection, Material Review Board dispositions,product surveillance,product quality deficiency report tracking and corrective action, special test equipment certification, Government Industry Data Exchange program alert tracking and reporting, Class II engineering change proposal review, DD-250 and ammunition data card review, government furnished property quality activities, purchase order review and government source inspection, schedule tracking, and review of test equipment software change authorization. In many cases, there will be little change for the TCDs as CSO will result in the elimination of duplications in oversight already conducted by both Raytheon and DCMC.

DCMC Raytheon and DCMC Reading personnel are responsible for providing orientations and training for Raytheon TCDs. During the experiment, DCMC will also conduct spot checks of the TCDs to verify the proper conduct of their reviews. A total of 12 metrics have been jointly determined by the contractor and DCMC in order to monitor the overall effectiveness of TCD activity to Raytheon Electronic Systems' procedures and contract requirements. A quarterly progress report will be provided to both DCMC and the AMRAAM Joint Service Project Office (JSPO).

Criteria For Success

The experiment will be considered a success if the following criteria are met:

- Quality: AMRAAM product quality levels are maintained or improved during the experiment.
- Cost: A reduction in total operating costs can be demonstrated during the CSO experiment as compared to the traditional DCMC oversight.
- Customer Satisfaction: The level of satisfaction by the JSPO and field activities with RES and DCMC services,products and processes, is maintained or improved.

Conclusion

The experiment will be completed in August 1997, at which time its results will be evaluated. A final report will be prepared at that time. Interim and final reports from all test sites will be gathered by DCMC. A set of recommendations will be coordinated with the Services and then forwarded to the USD (A&T).

In an era of reduced resources, the CSO pilot program will provide some key insights. The goal of the program is to develop and test more efficient oversight practices while still allowing DCMC to provide responsive customer support. Its results will be well worth studying.

For more infomation, call Steve Titunik, DCMC Raytheon, at (617) 238-2404 or e-mail bre6350@dcrb.dla.mil.

STEVE TITUNIK, the CSO Site Manager, is also the Deputy Manager of the Technical Assessment Group at DCMC Raytheon. Since April 1995, he has been the DCMC Raytheon Coordinator for the Single Process Initiative, an effort responsible for 32 successful concept papers with a direct savings on existing contracts of over $5 million. A member of the Acquisition Corps since 1992, he holds a B.S. degree in industrial engineering from Columbia University and an M.B.A. from Boston University.

LTC DWIGHT THOMAS is the Commander of DCMC Reading. He holds a B.A. in economics from Hampton Institute and an M.A. degree in management from Webster University. He is a member of the AAC and a graduate of DSMC.

COL EDWARD A. CERUTTI is the Commander of DCMC Raytheon. He holds a B.S. from the U.S. Military Academy and M.S. and Ph.D. degrees in mechanical engineering from the University of Arizona. He is a licensed professional engineer in Virginia.

ACQUISITION STREAMLINING USING THE INTEGRATED PRODUCT TEAM APPROACH TO DEVELOPMENT

By MAJ Tracey Syvertson

Introduction

The Army Medical Department (AMEDD) faces challenges in how to improve combat casualty care far forward on the modern armored battlefield.The problem lies in finding affordable technology that enables medics to rapidly reach casualties, provide prompt and effective treatment, and quickly evacuate to more definitive care. Recent acquisition streamlining initiatives have provided the military tools to speed up the development process.

The concept of teamwork is not a new term but is frequently seen in government and industry publications. The new Department of Defense (DoD) 5000 regulation highlights teamwork as the top theme and encourages the use of integrated product teams (IPTs) to streamline development efforts. Using the IPT process is a powerful tool for rapid prototyping and technology insertion. The U.S.Army Medical Materiel Development Activity (USAMMDA), a subordinate activity of the U.S.Army Medical Research and Materiel Command, has enjoyed success in implementing different types of integrated product teams to accomplish product management of the Armored Treatment and Transport Vehicle (ATTV).

User Test

A market analysis of existing armored platforms identified the M577 (stretch) version, the Command and Control version of the Bradley Fighting Vehicle System, and the Forward Artillery Ammunition Support Vehicle M992 as potential candidates for a new armored ambulance. The AMEDD conducted a limited user test at Fort Sam Houston, San Antonio,TX, in August 1994. Several platforms were evaluated by a group of users to determine the optimum combination of medical interior and litter lift system. The intent of the design of the medical interior is to provide state-of-the-art technology at the finger tips of the medic so that treatment of a casualty can continue en route to the next echelon of medical

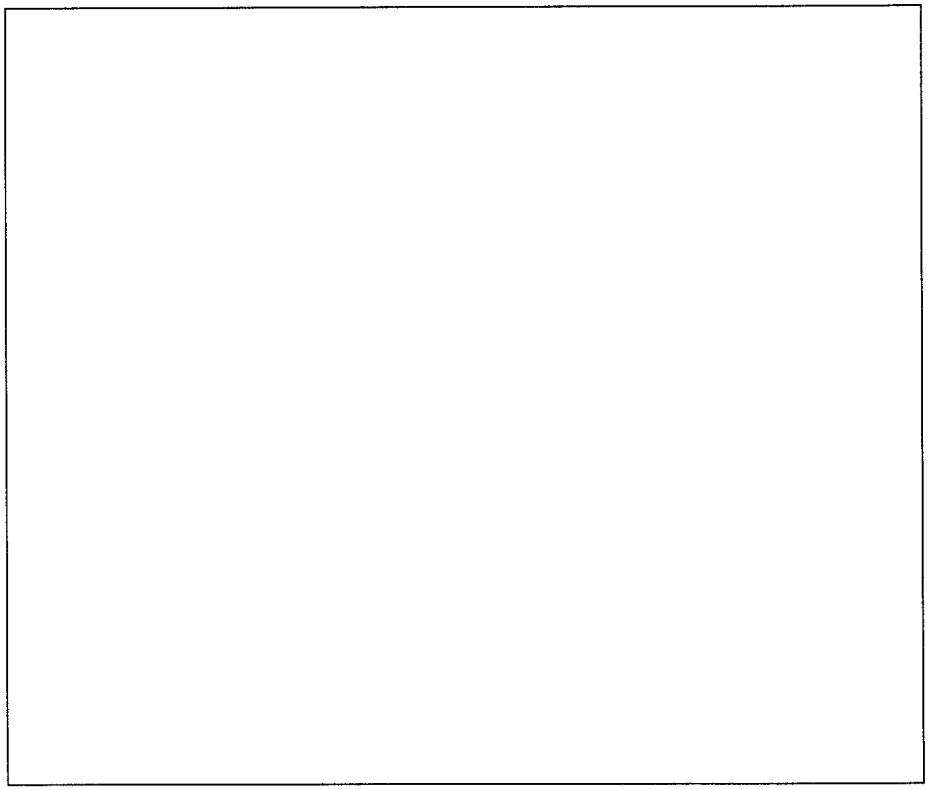


Figure 1.
Use of experimental forces in the Army.

care. Upon completion of the evaluation, the overwhelming preference was for the Bradley derivative or Command and Control Vehicle (C^2V).

Experimentation

In the fall of 1995, USAMMDA learned that the "armored ambulance" (later to become the ATTV) was accepted to participate in the Task Force XXI Advanced Warfighting Experiment (AWE). "Experimentation," a tool used by the Army since 1928, studies the impact of technology on the modern battlefield. The philosophy is that through experimentation the Army can better understand issues and develop solutions in an environment that simulates the modern battlefield. The first series of experiments dealt with the issue of mechanization on the battlefield. The Army developed tactics, techniques, and procedures for emerging organizations as a result of the experimentation process. Figure 1 outlines experiments of the past.

The theme of the current series of experiments is the impact of infomation age technology across a spectrum of: doctrine, training, leader development, organizations, materiel, and soldiers. The primary focus is on the development of new organizational design and command concepts designed to take advantage of advances in the infomation technology field.

Working IPT

In preparation for the Task Force XXI experiment,projected to occur in March 1997,USAMMDA instituted a Working Integrated Product Team (WIPT) to design, develop, and manufacture the next generation evacuation vehicle for the Army Medical Department. The team consisted of members from USAMMDA, the Bradley Fighting Vehicle Program Management Office (PM Bradley), the U.S.Army Medical Department Center and School, the Battle Lab Support Element, and United Defense Limited Partnership (UDLP, Bradley manufacturer). Each organization represented in the WIPT became a stakeholder in the process which resulted in an extraordinary effort to develop a successful product.

The newly formed WIPT met in November 1995 to begin design of the first Task Force XXI ATTV prototype. The focus of the meeting was a discussion of risk,cost, schedule, and performance objectives. The WIPT implemented biweekly design meetings via telephone conference calls throughout the second quarter of fiscal year 1996, and held three meetings (one per month) at the UDLP facility, in San Jose, CA, with WIPT members present. Design decisions were made rapidly using the rules of the IPT concept outlined succinctly in the new DoD 5000 regulation. Open discussions, proactive participation, continuous "up-the-line"communications, and maximum use of electronic media created a synergistic environment dedicated to mission accomplishment. Within three short months, engineers and tradesmen began to bend metal at UDLP's San Jose facility and concurrently at the USAMMDA Rapid Prototyping Facility. On time delivery of the prototype to the designated Experimental Force, 4th Mechanized Infantry Division, Fort Hood, TX, occurred in late May 1996 (vehicle shown in Figure 2).

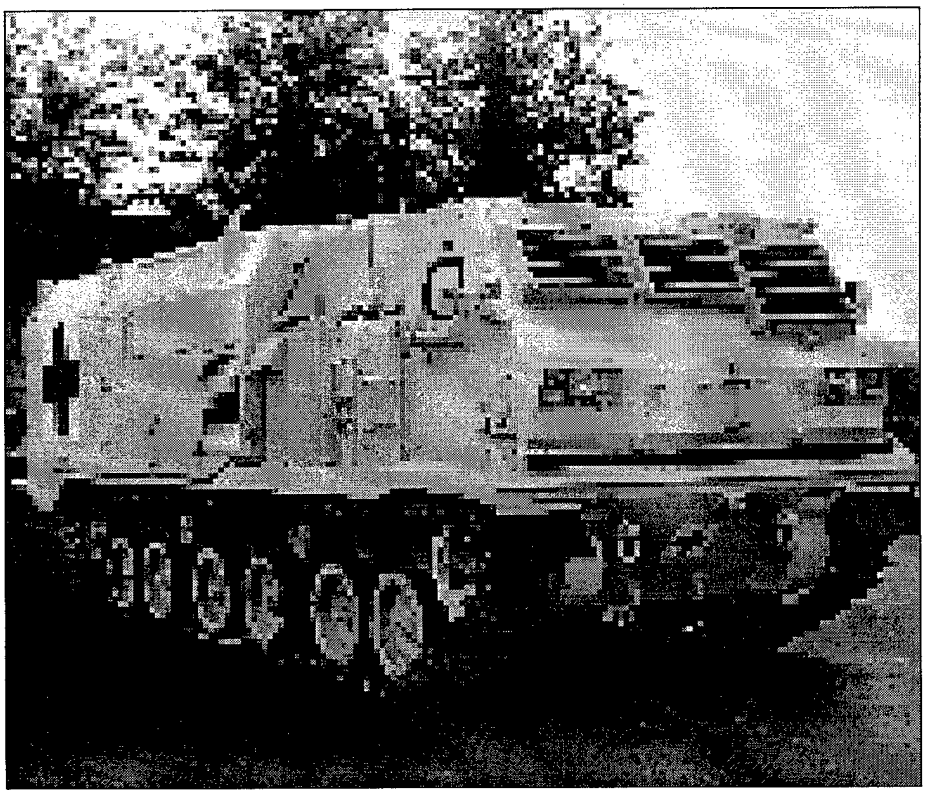


Figure 2.
Task Force XXI Armored Treatment and Transport Vehicle.

The ATTV

The ATTV will replace an aging fleet of M113 evacuation vehicles. Doctrinally, medics have in the past provided little treatment while evacuating casualties to more definitive care. Historically, the only care received was on the ground at the site of wounding prior to arrival at a Battalion Aid Station. With the ATTV in the evacuation configuration, once a casualty is triaged and receives basic care on the ground, he is loaded into an enclosure that provides ballistic, environmental, and biochemical protection and provides the capability for treatment en route. At the Battalion Aid Station, an ATTV in the treatment configuration, stands ready to receive patients and provide basic and advanced life support,also in a protected environment.

The ATTV improves mobility, survivability, and medical treatment capability over its M113 and M577 predecessors. The M577 treatment vehicle is outfitted with a tent extension which provides only limited protection from the hostile

environment to patients being treated. By comparison, the ATTV is ready to treat patients upon opening the back door and inside it provides significantly improved protection to patients undergoing treatment. An onboard power source provides power to all the vehicle subsystems so the vehicle does not have to be running to provide necessary treatment routines. The AMEDD hopes to prove the flexibility and improved capabilities of the ATTV in the upcoming AWE.

The ATTV program leverages a stable Command and Control Vehicle program. The C^2V is a non-developmental program which uses the Multiple Launch Rocket System carrier and the enclosure from the Electronic Fighting Vehicle System. The ATTV can be reconfigured for evacuation or treatment and, thereby, replace both the M113 ambulance and M577 treatment vehicles.

Using a Bradley derivative vehicle provides commonality of repair parts, thus reducing the logistical tail within heavy divisions. By leveraging the C^2V program, the ATTV can streamline development time down to a short, four-year period and save the AMEDD between $60-80 million in research and development costs. The projected research and development costs for the ATTV is between $5-10 million over four years. The costs are for integration of the medical equipment module into the enclosure of the C^2V platform. Concurrent C^2V and ATTV production lines reduce the overhead burden on individual program management offices and drive down the overall unit cost of the vehicles.

Overarching IPT

USAMMDA has recently formed an Overarching IPT (OIPT) to focus the AMEDD's programmatics for funding and fielding of this new system. The OIPT is preparing for a Milestone In-Process Review by the Acquisition Decision Authority in early first quarter 1997. The team membership includes representatives from the Department of the Army Office of the Deputy Chief of Staff for Operations and Plans; Office of The Surgeon General; Operational Test and Evaluation Command; AMEDD Center and School; U.S.Army Medical Research and Materiel Command;USAMMDA; U.S.Army Medical Materiel Agency; U.S.Army Tank-automotive and Armaments Command; and Office, PM Bradley. Senior Army leadership is implementing new processes and procedures to fund programs that are successful candidates in the AWEs. The intent is to field the first Army XXI Division by the year 2000. Part of the OIPT's charter is to identify and seek out potential fund sources.

Conclusion

The use of IPTs in the development process is enabling the AMEDD to achieve the following four objectives set forth by the Honorable Paul G. Kaminski, Under Secretary for Defense for Acquisition and Technology, in April 1995:

- Creation of an acquisition system that capitalizes on the strengths of participants;
- Highest level interaction in the process up front and early with program offices;
- Transformation of historically adversarial relationships;and
- Renewed emphasis on working as a cross-functional team to achieve maximum perfomance.

The decreasing Department of Defense budget and public demand for quality medical care warrant using cost effective state-of-the-art technology on the modern battlefield. GEN Dennis J. Reimer, Army Chief of Staff, challenges the Army in saying,"We must find smarter ways to do business, streamline our management processes, reduce overhead, leverage outside resources, and use what we have more efficiently in order to become more effective." The ATTV development is a model for the principles of acquisition streamlining and teaming charged to us by the chain of command.

The decreasing Department of Defense budget and public demand for quality medical care warrant using cost effective state-of-the-art technology on the modern battlefield.

MAJ TRACEY SYVERTSON is the Deputy Project Manager for the Applied Medical Systems Division, USAMMDA, Fort Detrick, MD, and has a master's degree in management from the Naval Postgraduate School. Her previous assignment was Company Commander, 18th Medical Command and the 121st Evacuation Hospital, Seoul, Korea. Syvertson is a medical logistician qualified as a functional area 51 officer.

SYSTEM COMPONENT BREAKOUT

By Sharon Woods

Introduction

The Abrams Tank System Program Management Office has had a great deal of success with system component breakout. As a result of breakout efforts conducted throughout the tank's evolution, government furnished material (GFM) makes up 54 percent of the tank (Figure 1).Over the life of the tank program, more than $1 billion have been saved and re-invested through component breakout.

What Is System Component Breakout?

Breakout involves the review and analysis of those components traditionally procured by the end-item manufacturer. This analysis determines the feasibility of procuring components sole source from the original manufacturer or by procuring components on a competitive basis. The components that are broken out are then provided to the end-item contractor as GFM.

FAR And FAR Requirements

Breakout is neither mandated nor precluded. Under Federal Acquisition Regulation (FAR) Part 34, major systems ($75 million RDT&E or $300 million Production) are required to have a breakout plan when no price competition for the system exists and substantial savings may result.

Defense Federal Acquisition Regulations Appendix D (Component Breakout) provides the criteria to be examined during a breakout assessment. Major assemblies,sub-

ABRAMS BREAKOUT EVOLUTION

MAJOR COMPONENTS	FY79-80	FY81	FY82-85	FY86-90	FY90-91	FY93	FY94	FY95	FY96
GUN (105/120)	X	X	X	X	X	X	X	X	X
DRIVERS NIGHT VIEWER	X	X	X	X	X	X	X	X	X
COMMO EQUIPMENT	X	X	X	X	X	X	X	X	X
GUN MOUNT	X	X	X	X	X	X	X	X	X
TRACK (T156/T158/T158LL)	X	X	X	X	X	X	X	X	X
ENGINE		X	X	X	X	X	X	X	X
TRANSMISSION		X	X	X	X	X	X	X	X
FINAL DRIVE (C)		X	X	X	X	X	X	X	X
FIRE CONTROL (6 ITEMS)			X	X	X	X	X	X	X
ROADWHEELS (C)				X	X	X	X	X	X
ARMOR				X	X	X	X	X	X
DIGITAL ELECTRONIC CONTROL UNIT						X	X	X	X
GUN TRUNNION RESOLVER						X	X	X	X
COMMANDERS INDEPENDENT THERMAL VIEWER								X	X
HULL/TURRET ELECTRONIC UNIT									X

Figure 1.

Figure 2.

assemblies or elements with a current requirement of $1 million or more are reviewed against an extensive list of breakout criteria (Figure 2). If breakout would cause systems fragmentation, the component or assembly is eliminated as a breakout candidate. Therefore, components are selected where a new infrastructure is not necessary, and current government resources are in place.

Government Study Results

Despite the significant decrease in production rates, aggressive engineering efforts to reduce hardware costs coupled with persistent pursuit of work consolidation, overhead cuts,and competitive breakout has not only led to cost avoidance but cost savings.

Our government study team has found several reasons why prices are lower when the government procures components. Many end-item contractors insist on just-in-time delivery; whereas the govemment, within program parameters, can tailor schedules that coincide with vendor efficiencies and cash flow requirements. Since the government procurement contracting officer (PCO) is typically buying a range of requirements to support spares and other vehicle programs from the same contractor, they can also accommodate broader plant workloading and related factors with ease.

Commodity Experts

Government PCOs are commodity experts. For instance,the contracting personnel at the U.S.Army Tank-automotive and Armaments Command (TACOM) are experts in track procurement. Government contract personnel have an understanding of the track industry and what the commodity cost drivers are. The Abrams Tank prime contractor may have occasional buys of track,but will not have the need or opportunity to develop the level of training and experience demanded of the govemment track PCO at TACOM.

Commonality

The government has explored GFM commonality across systems. By engineering common designs or merging designs of two or more systems,the government minimizes logistic cost,thus affording the PM the capability to increase the quantity of production buys. Both the Common Power Control Unit and the Eyesafe Laser Rangefinder for the Abrams Tank and Bradley Fighting Vehicle are examples of GFM which generate greater savings than simply avoiding the contractor's markup.

Industrial Base

Industrial base initiatives and minimum sustaining rates are tools used to secure critical industrial bases. In the case of Allison Transmission Division, a "dual-use" lease was signed in 1994. The lease permits Allison to use almost 700 pieces of government plant equipment to produce commercial requirements. Engaging in commercial business was the key to the Allison X1100 transmission cost issues and preserving the military transmission technical base.

Allison Transmission Division is actively supporting the industrial base for both the X1100-3B transmission and the X200 transmission by consolidating the production fa-

Program savings have resulted from component breakout and parts reclamation. The savings are further enhanced by partnering agreements, dual-use lease, best value source selections, streamlining/templating scopes of work, moving production to low-cost plants, and plant consolidation/ downsizing.

cilities into their Plant 14. Previously, only the X1100-3B transmission was produced in Plant 14,and now with the reduced requirements there is excess capacity that can be utilized by the X200 and other military transmission production. This consolidated effort increases the business base, reduces overhead charges to the individual programs and reduces total amount of government furnished equipment,through the use of flexible equipment.

Limited Resources

Some of the vendors on the tank program are competitors of the prime contractor, either directly or indirectly. In these instances, it's easier for the government to deal directly with the vendors. This allows the government to make effective use of limited resources. By exploiting the resources and training provided by government PCOs, the PM has been able to turn the savings into additional tanks and provide the prime contractor with the additional work that supports critical skills such as armor welding,tank production,tank engineering, and logistics support.

Breakout Results

During the Abrams breakout reviews, the prime contractor has been afforded the opportunity to participate in the government breakout assessment by identifying system fragmentation issues or other program impacts that breakout of a particular item might cause. The prime contractor also has been provided the opportunity to offer the government a financial package to maintain certain items as their (contractor) responsibility. Under the Phase I Upgrade program, the prime contractor presented an offer to retain those components identified as breakout candidates. The government accepted the prime's offer. Acceptance of the offer resulted in a savings acceptable to the program at a reduced risk. Regulatory guidance provides the program management office the latitude to make sound business decisions, as was the case under Phase I.

Under Phase II of the Abrams Upgrade program, the prime contractor presented an offer to retain those components identified for breakout. The government could not find a comparable benefit in the prime's offer to retain the Commander's Independent Thermal Viewer (CITV), as was offered under the Phase I program. The CITV was broken out and procured from the original manufacturer.

In addition to the review of the CITV, the Hull/Turret Electronics Unit (H/TEU) was determined to be a viable breakout candidate. In this case,the prime contractor submitted a proposal in an effort to retain this component and competitively won the award over the original component manufacturer. A firm-fixed price contract,including the system technical support, was issued. In this case, General Dynamics Land Systems (GDLS) will manufacture the component,deliver it to the government and the government will deliver the H/TEU to GDLS as GFM. The benefits of this competitive award reduces the government's risk and provides the government with a potential savings of $19 million as a result of the breakout effort.

Summary

The guidance relative to breakout has provided the program manager with adequate flexibility and discretion to make the business decision that is right for the program.

Program savings have resulted from component breakout and parts reclamation. The savings are further enhanced by partnering agreements,dual-use lease,best value source selections, streamlining/templating scopes of work, moving production to low-cost plants, and plant consolidation/downsizing.

The savings realized under the Abrams Upgrade Phase II multi-year contract have enabled the program to procure additional tanks.

As demonstrated in Figure 1, the Abrams Program Management Office has continuously reviewed the way we do business to keep the program affordable. System component breakout has been, and will continue to be, a viable avenue for the tank program.

SHARON WOODS is a procurement analyst for the Project Manager, Abrams Tank Systems. She holds a master's degree in education from Michigan State University.

From The Director, Acquisition Career Management Office (ACMO) . . .

New developments are once again accelerating the pace of change in the Army Acquisition Corps (AAC). The DOD Acquisition Management Functional Board has just approved a major revision to the Program Management Competencies. The revision recognizes that an understanding of Information-Age Technologies (IT) and the acquisition of automated information systems and software are essential skills for all program managers. Here in the ACMO, we are seeking to increase IT training for our program managers (PMs) and increase IT acquisition skills in our program offices. Any ideas that you have regarding how we might better acquire and hone our IT skills are appreciated! Along these lines,Dr. Owen C.Gadeken's article,entitled "Project Managers As Leaders: Competencies of Top Performers," on page 2 of this issue is a must read.

Congratulations to those recently selected as Corps Eligibles, listed on pages 50-52! You currently meet the statutory education, training, and experience requirements to be members of the AAC. Upon selection for a critical acquisition position at the grade of GS-14, you will be rapidly accessed into the Corps. Most importantly, you are now eligible to compete for our annual Competitive Development Group (CDG). The objectives of the CDG program are to select the very best GS-13's,broaden their leadership and management skills,and expand their knowledge of the acquisition process. CDG members will be assigned to centrally funded developmental positions for three years based on their individual experience, education, and training needs documented in their Individual Development Plan. CDG members will receive priority access to cross functional training and advanced leadership and management courses.

The Officer Personnel Management System (OPMS) XXI Task Force is currently wrestling with several fundamental questions which will have a profound impact on the military component of the AAC. For example,"How does the Army create viable,alternate career paths while remaining focused on warfighting?" In terms of Army Acquisition,what will the acquisition professional of the future look like,what are the training, education,and experience requirements, and how do we attract and retain the best and brightest personnel needed to manage the most important programs and commands in the AAC? How do we educate promotion boards and selection panels on the value AAC officers and civilians add to the Army and the importance of our support to the warfighter? Another question before the Task Force is: "What are the fundamental purposes of our professional military education (PME)?" The Task Force is asking if AAC officers should attend the Army Management Staff College rather than the Command and General Staff College (CGSC) or attend only the first six months of CGSC and then attend mandatory acquisition courses at the Defense Systems Management College. Would this distance AAC officers from their operational counterparts? I solicit your comments and thoughts on these questions as I represent you on the OPMS XXI Council of Colonels.

Finally, I'm often asked the question,how do we convince our best civilian employees and military officers to choose a career in the AAC? This challenge is made even more difficult with the downsizing of both the military and civilian components. The transfer board article on page 53 points out the many difficult decisions which confront the Army and the AAC. We have been challenged to become more efficient in everything we do in acqusition or face the possibility of additional reductions. The Acquisition Career Management Office is committed to improving all aspects of the Acquisition Corps and the Acquisition Workforce. This includes the training, education, experience, and work environment of our members. In addition, we have numerous career development initatives that are going to make our civilian AAW more competitive for critical acquisition positions and provide opportunities for significant contributions by our military officers. There is a constant demand for acquisition personnel of all ranks and grades to fill important acquisition positions. We have a Corps of the finest professionals in the world. Our job in the ACMO is to keep it that way.

I look forward to hearing from you!

COL Thomas V. Rosner
Director, Acquisition Career Management Office
Pentagon, 3E427
rosnert@sarda.army.mil
(703) 697-6291 (DSN 227)

Corps Eligible Designees

The Army Acquisition Corps (AAC) Corps Eligible (CE) Program targets GS-13s Army-wide to determine their eligibility for AAC membership when selected for a critical acquisition position (CAP),and provides them with various career enhancing opportunities.

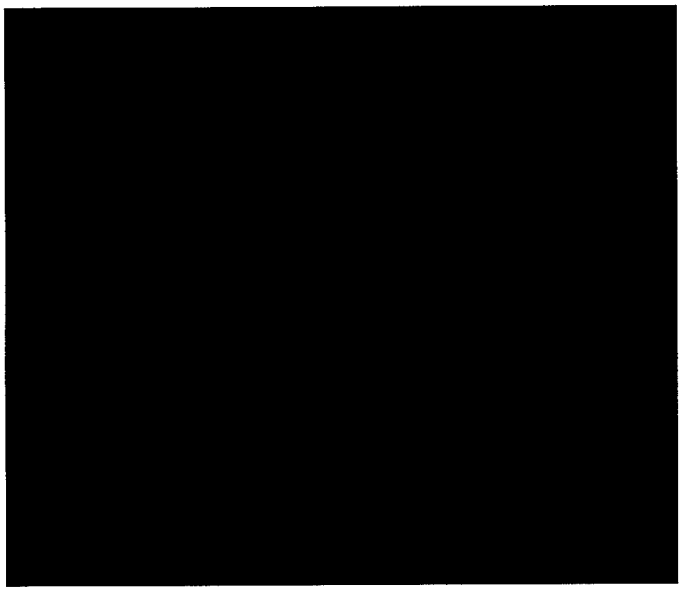
The following is a list of those applicants who have been designated CE since the last listing was published in the July-August 1996 issue of Army RD&A. As others are designated,their names will be published in future issues of Army RD&A magazine.

For more information on the CE Program, contact Thomas Drinkwater at commercial (703)695-7653 or DSN 225-7653.

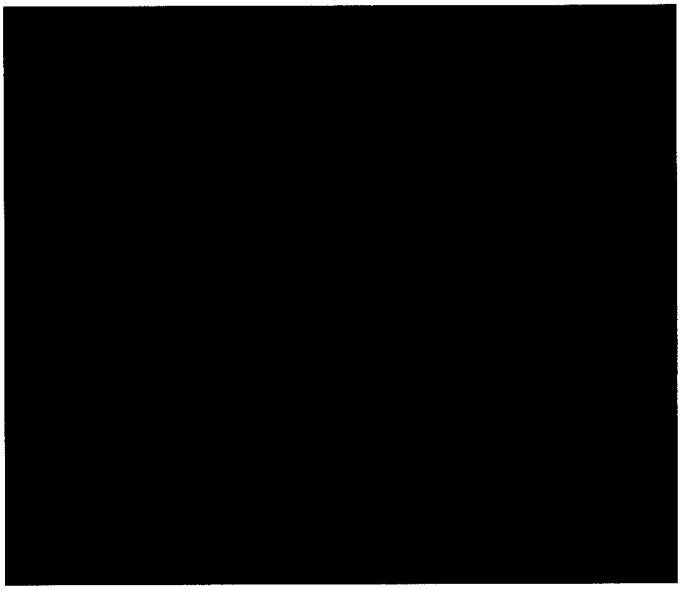
ABDIAN KARIM
ALAWEIH ADAM H
ALEXANDER KELLY D
ALEXANDER YOLANDA Y
ALKIRE STEPHEN O
ANANIA ANTHONY D
ANDERSON CHARLES L
ANDERSON DOROTHY A
ANDERSON KATHLEEN M
ANDREWS CAROLINE G
ARRIOLA ROBERT A
ARTHUR LEXINE V
ATTAWAY ROBERT J
BABCOCK ROBERT D
BAKER ANNE M
BARTON MICHAEL D
BASS DWIGHT L
BAUGHMAN ROBERT G JR
BECK STEPHEN A
BELL GORDON C
BELLOMY KEITH J
BELTRAN LINDA S
BENERO THOMAS
BENITEZ JESUS M
BENNETT HOWARD W JR
BENT COREY A
BISHOP WILLIAM T JR
BITTLE DAVID A
BLIXT CAROLE E
BODEN BARBARA ADLER
BONNEY RICHARD G
BORKOWSKI WEIDA A
BOWIE HAMILTON G
BRADLEY WAYNE M
BRANN HARRY V
BRASSEL PATRICK OSCAR JR

BRENNAN CRAIG R
BRODOWSKI PHILIP J
BROWN JAMES A JR
BROWN PAMELA S
BRUNO WAYNE S
BUNDY DAVID J JR
BURBELO ANDREW E
BURNHAM BRIAN D
BURROUGHS PHILLIP M
BURROUGHS SUSAN L
BYRD CAROL J
CAMPBELL WILLIAM E JR
CANNATARO JOSEPH
CARLSON MARVIN A
CARLTON DAVID P
CARPENTER KATHY H
CARPENTER STANLEY L
CARSEY LINDA SUE
CASTILLO LORRAINE C
CHALOULT MICHELE R
CHAPLIN DOREEN L
CHERUKURI PADMANABHAM
CICALESE CARMEN J
CITERA WILLIAM K
CLARK KEVIN G
CLEMENT WILLIAM R
CLERIE GARY PIERRE A
CLEVELAND DONALD
COBEN GREGORY L
COLEY MICHAEL M
COLLIER SAMUEL L
COLSON WILLIAM A
COONS BRUCE D
COOPER ALLAN E JR
CORBIN JAMES S
CORNELIUS CHARLES STEPHEN
CORNWELL ROLAND K
COWARD JOHN R
CROSS-SMITH PATRICIA
CROW ROBERT A III
CRUCE JAMES ARTHUR
CRUSE LARRY O
CRUZE GLENN O
CUNNINGHAM BRIAN F
D'APRILE THOMAS P
DAIGLER MICHAEL JOSEPH
DALY MARY C
DANIELS EUGENE
DAVIS DAVID O
DE LA CRUZ DENISE
DEMPSEY JOHN K
DICKSON JERRY M
DIGIOVANNI FRANK P
DODGE DONNA M
DONLON FRANCIS P JR
DORR MARK P
DRUM RALPH W
DRZYCIMSKI STEPHEN L
DUNBAR NATALIE L
EDGINGTON SCOTT D
EDWARDS SARAH H
ELLISON GEORGE M
EUBANKS WESLEY R
EVANS HAROLD
EVANS LENORA C
EVANS MICHAEL J
FIUZA ANTONIO F
FLETCHER DALE N
FORCHHEIMER RICHARD O
FREEMAN GARY EDWARD
FREEMAN OZZIE N
FULLER BEVERLY J
GANOE JAMES R
GEDEON MICHAEL L
GEDGE GEORGE F JR
GENTRY MARY K
GETZ JOANNE M
GILBERT JAMES R
GIROLAMO HENRY J
GLOSEMEYER PAUL H
GOAD EDWIN R
GONZALEZ TABLADA JOSE J
GOODEN MICHAEL J
GORE GREGORY D
GORMAN GREGORY L
GRIGSBY ANNA M
GRINTER DANIEL W
GROSS DENNIS M
GRUM MICHAEL E
HALE ROBERT W
HALKE WILLIAM M
HALL MARY ANN
HAMIDI SEYED M
HAMILTON MARK A
HAMILTON WILLIAM S
HAMNER CHRISTOPHER A
HANKEL RICHARD H
HARDER FAITH M
HARRIS JEFFREY L
HARRIS JOHN W
HARRIS MARTIN A
HARRISON BONNIE K
HARRISON EDDY D
HARVEY SHELBY J
HARVILL WILLIAM E JR
HASKELL JOHN W
HAVERKAMP ROD P
HAYNES MICHAEL D
HEIDELBERG JOEL D
HENRY SCOTT L
HERRING ERIC JOSEPH
HESS LEE A
HESTER PAUL L
HIGNITE GRETCHEL L
HILL SCOTT D
HINTON HENRY B
HOAFAT WILFRED R
HOCKING DANIEL E
HOLMES RICHARD ALLEN
HONS ROBERT F
HOOKS LISA MARIE
HUDSON TRACY DEAN
HUTCHISON MICHAEL R
INSINGER RICHARD H III
IVANKOE JR EUGENE M
IVY JESSE W
JAMISON CHERYL D
JIMENEZ DAVID
JOHNSON JAMES B
JOHNSON MARGARET C
JONES SAMUEL M
KASSING ALBERT H JR
KELLOGG DAVID H
KELLY SIDNEY
KEMP GARY L
KERN DANIEL R
KHANNA VISHWA N
KING STEVEN E
KINSLOW DOREATHA E
KIRSCH JAMES C
KISKO JOHN C
KISSEL ANN H
KOHNKE SCOTT W
KOLLMAN SUSAN M
KOOL RONALD L
KORMELINK JESSICA RUTH
KOVACH ROBERT G
KRAFT DEAN R
KRALEY GEORGE JOHN JR
KREPACKI VICTOR A
KRISHNAN RAM
KROH MYRNA Z
KUDRNA GEORGE R
LAMPER SALLY E
LARA ELOISA
LASTRA ENRIQUE M
LAUBE HANNES
LAWRENCE MIKE C
LECONEY LUTHER C III
LEDBETTER ALICE A
LEGALUPPI CRYSTAL A
LEONARD WAYNE M JR
LIJOI ANDREA L
LINDLEY KEVIN S
LINGEBACH RICHARD M
LINKLETTER MICHAEL J
LITZ MARC S
LONERGAN JAMES M
LONG HOSSIE L JR
LONG SANDRA E
LONG VICKI LYNN
LYNCH JOHN M
MACVITTIE DONALD C
MALONEY MICHAEL M
MARTIN LARRY K
MARTIN MARIETTA E
MARTINEZ RAYMUNDO G
MASCHGAN ERIK R
MATKIN BRENDA L
MAWN ANDREW J
MAXWELL TIMOTHY S
MCCAULEY RANDY L
MCCOLLUM WILLIAM L
MCCRAY LEON K
MCGARRY LINDA MARIE
MCINTOSH CLARA M
MCKINNEY WILLIAM PLESS
MCKISSICK DENISE M
MCMAHON KEVIN J
MCQUIRE KELLY B
MCSHEA BARBARA S
MEFFERT BRIGITTE M
MERSCH RICHARD J
MEYER PHILIP C
MIELE ROBERT M
MIKLITCH JAMES L
MILLS MICHAEL B
MINCHALA DAVID A
MOORE LOUIS JOHN
MORALES GLORIA L
MORRIS FLOYD ALAN
MORSE DEWEY J
MUELLERMYERS SHARON A
MULLIN RICHARD D
MYERS CORBETT D
NEJIB PERRI U
NELSON NICK C
NEMETH MANUS E
NEWELL JEROME H
NGUYEN BINH QUANG
NIXON RICHARD G
OLDANI EDWARD R
OLEJNICZAK GARY
OLSZEWSKI RICHARD C
OSBORN NANCY N
OWEN ROBERT M
OWENS DENNIS M
PAINTON PATRICIA B
PARIS BRYAN W
PARK SANDRA M
PARK TAE W
PARKINSON JOHN P JR
PAYNE SUSAN H
PETERSEN DAVID L
PETERSEN DENNIS L
PETERSEN JUDITH A
POTTS STEVEN W
PRICE JOEL A
PROPER JOHN A
QAADRI MOSHARRAF
RAMSDELL MICHAEL A
RAUSCH DAVID L
RAWLS ABRELLIA C
READ WILLIAM E
REES KEVIN SCOTT
REZNY ROBERT R
RICE MARIE S
RICE WALTER J
RICH JAMES J
RICHARDS JAMES F
RICKMEYER TIMOTHY C
RIVERA MONER JORGE
ROBERTSON MARY C
ROGERS WILLIAM M JR
ROSE JOYCE E
ROUSE PETER L
ROYO HUMBERTO M
ROZANSKI FRANCINE M
RUSSELL GERALD W
RUSSO LEONARD L
SANTIAGO MATIAS II
SANTOYO RODNEY M
SATZ ROSE D
SCHILLER ECKHARD W
SCHWARTZ MILAN
SCHWEGLER DAVID W
SCIBONA GARY
SEDLACEK CAROL J
SHAIKH IQBAL J
SHARPE WILLIAM R

SHERROD STAN K
SHIELDS ROBERT T
SHIFFLETT JACK L
SHIM JAE I
SILL GREGORY A
SIMPSON DENNIS L
SKLINAR JOHN E
SKOW NORMAN F
SLINGERLAND ROBERT S JR
SMITH KIM M
SMITHSON WILLIAM L
SNODDY CLAUDE P
SOLOMON BERYL Y
SOPRANO MARTIN B
STAFFORD THOMAS J
STANFIELD DAVID L
STEPHENSON JOSEPH MCCOY JR
STEWART CHRISTINE M
STORY WILLIAM SCOTT
TARCZYNSKI MARCIA M
TEAGUE REX E
THIESFELD ROGER N
THORNLEY CRAIG D
THYGERSON WILLIAM ROLAND
TIGNOR MICHAEL R
TILSON DAVID L
TOBIAS JAMES M
TOWRY ELISA R
TROUP JOHN E
TUCKER DONALD O
UPSHAW BETTIE M
VANDER SANDE GARY L
VONDERA VERNON E
VUILLE ALISON R
VUXTON CHRISTOPHER G
WALKER DONALD P
WALTON EUGENE
WARD JUDITH A
WATKINS JAMES T II
WEINFELDT JOHN C
WEJSA JAMES L
WHITTIER MICHAEL D
WIBLE WALTER A
WILLARD DONNA L
WILLIAMS ARIEMEAN C
WILLIAMS PAMELA G
WILSON KEVIN B
WINNER WENDY A
WOLFE GREGORY J
WONG TEDDY S
WOODSINGER KEVIN J
WOODSON JACQUELINE C
WORCESTER ROBERT
WRIGHT BARBARA TERESA
WYSOCKI KATHLEEN M
YASENCHAK RONALD G
YEAKEL WILLIAM P
YEE ALICE W F
YORK DOUGLAS W
YOUNCE MICHAEL G
ZAPATA JAIME E



ASA(RDA) and AAE Gilbert F. Decker presents Civilian Playbook Award to Peggy Mattei.



Willie Lanier receives AAC Civilian Playbook Award from ASA (RDA) and AAE Gilbert F. Decker.

Civilian Playbook Awards

Two members of the Army acquisition community were recently recognized for what Keith Charles, Deputy Director, Acquisition Career Management, called an "unusual and demanding task." Hon. Gilbert F. Decker, Assistant Secretary of the Army (Research, Development and Acquisition) (ASA(RDA)) and Army Acquisition Executive,presented Army Acquisition Corps Civilian Playbook Awards to Willie Lanier, Personnel Management Specialist, Civilian Acquisition Management Branch, U.S. Total Army Personnel Command, and Peggy Mattei, Proponency Officer, Acquisition Career Management Office, OASARDA,in a ceremony at Fort Belvoir, VA, late last year.

Mattei and Lanier were tasked with creating an Army Acquisition Corps Civilian Playbook patterned after the Military Acquisition Corps Playbook '96 just 30 days prior to the Association of the U.S.Army's (AUSA) annual meeting in Washington, DC, in October 1996. Charles commended the two for producing the Civilian AAC Playbook in time to have copies available at the AAC display titled "Developing the People Who Develop the Systems" at the AUSA meeting.

Mattei and Lanier each received a plaque and an inscribed AAC coin.

The purpose of the playbook is to help AAC and Army acquisition workforce (AAW) members to understand the building blocks of a successful acquisition career, and to learn more about opportunities available to acquisition professionals. In the future,one playbook addressing both military and civilian members of the AAC and AAW will be published.

PERSCOM Notes. . .

First AAC Transfer Board Adjourned

Next Board for YGs 79 and 80 Officers in June 1997

The first of two PERSCOM transfer boards convened Nov. 18-21, 1996, to select Army Acquisition Corps (AAC) officers in overstrength year groups (YGs) to return to their basic branches. The board selected 25 lieutenant colonels and 14 majors. A breakout of the number of officers selected by year group is shown below:

YEAR GROUP	NUMBER SELECTED
1976	3
1977	0
1978	22
1982	9
1983	5
Total	39

The selection requirement for the November transfer board began at 109 officers (76 lieutenant colonels and 33 majors). This requirement was reduced by 64 percent to 39 officers through voluntary transfers and retirements. The transfer of these officers to their basic branches will balance YGs 1976, 1978, 1982, and 1983. Year group 1977 received sufficient volunteers to balance the year group prior to the convene date of the board.

A list of selected officers was not published. The first general officer in the chain of command notified the selected officers in early December.

A second PERSCOM transfer board will convene in June 1997 to select officers to return to their basic branches in YGs 1979 and 1980. Date of rank (DOR) will determine an officer's year group:

- YG 1979—DOR between 19950601 and 19960901; and
- YG 1980—all promotable majors and lieutenant colonels with DOR between 19961001 and 19970601.

Officers in these year groups who meet the following criteria will be considered by the transfer board:

- Have not previously volunteered for transfer;
- Have not been selected for AAC PM/ACQ CMD;
- Are not on the upper 1/3 of the FY 98 PM/ACQ CMD alternate list;
- Not an experimental test pilot or astronaut;
- Have declined PM/CMD after being selected.

Currently, YG 1979 is overstrength by 45 officers and YG 1980 is over by 26. These numbers are expected to decline as officers begin to volunteer to return to their basic branches. In early January, the Military Acquisition Management Branch will send letters providing additional information regarding the board to all officers who might be considered.

Officers considering volunteering to return to their basic branches are encouraged to contact their basic branch career manager to discuss assignment possibilities. Phone numbers to the basic branch career managers are listed below.

PERSCOM LIEUTENANT COLONEL CAREER MANAGER PHONE NUMBERS

Commercial: (703)325-XXXX
DSN: 221-XXXX

BRANCH	PHONE NUMBER
Air Defense Branch	325-5390
Field Artillery Branch	325-5374
Infantry Branch	325-5524
Armor Branch	325-5531
Aviation Branch	325-6194
Special Forces Branch	325-3169
Chemical Branch	325-5686
Engineer Branch	325-5696
Military Intelligence Branch	325-5504
Military Police Branch	325-5689
Signal Branch	325-5683

Army Aviation Experimental Test Pilot Training Program Selection Board

An Officer Personnel Management Directorate (OPMD) selection board will convene on March 11, 1997, to select active duty Army aviators for the Army aviation experimental test pilot training program. This board will review and select both commissioned and warrant officers. Commissioned officers selected to attend the U.S. Naval Test Pilot School (USNTPS) are automatically assessed into the Army Acquisition Corps (AAC) where they will serve the remainder of their careers. PERSCOM must receive all applications NLT Jan.31,1997.

The purpose of this program is to train experienced Army aviators to become qualified experimental test pilots (XP). The Army currently trains aviators at the U.S.Naval Test Pilot School (USNTPS), Patuxent River, MD. This program is the sole source of personnel to satisfy Army requirements for experimental test pilots. USNTPS conducts two classes annually beginning in January and July. Class duration is 11 months. The program applies only to active Army applicants.

To be eligible, an officer must:

- Be an active duty army aviator in career status.
- Have demonstrated performance indicative of continued selection for promotion and, for commissioned officers, be in the grade of major or below upon completion of training.
- Be screened by the U.S. Total Army Personnel Command (TAPC) to determine availability for selection board consideration. Among the factors considered will be rotation dates, service requirements, and career progression for captains and majors in the AAC. Majors must already be in the AAC or have previous acquisition related experience.
- Commissioned officers must be branch qualified prior to attending the test pilot training program.
- Warrant officers must be advanced course graduates prior to attending the test pilot training program.
- Meet medical fitness standards for flying outlined in AR 40-501, Chapter 4.

Selection Criteria

Minimum prerequisites for attendance at the USNTPS are as follows:

- Pilot status code 1.
- An associate's degree in an engineering or acquisition-related discipline with above average grades.
- Have completed college algebra, calculus, differential equations, and physics with above average grades.
- 1,000 hours military flying time.
- Ability to pass the Navy swim qualification test.

Highly desirable qualifications are as follows:

- A bachelor's or master's degree in an engineering discipline or other acquisition-related field.
- Successful completion of college mechanics (solids/fluid/flight), thermodynamics, aerodynamics, control theory, and advanced mathematics, with above average grades.

• Experience in complex aircraft such as the CH-47,UH-60,AH-64, OH-58D, and/or fixed-wing military aircraft.

• Rating as an instructor pilot (IP), instrument flight examiner (IE), or maintenance pilot (MP).

For commissioned officers, the following criteria are also highly desirable:

• Field unit experience as an aviation company commander.

• Eight years or less of active military commissioned service.

• Completed the resident portion of the Combined Arms And Services Staff School.

To meet civilian educational requirements,selected officers participate in the cooperative postgraduate study - Naval Test Pilot School (CPS-NTPS) Program. Qualified officers spend 12 to 18 months at a civilian educational institution in a concentrated aeronautical engineering/systems curriculum prior to entering the XP program. Upon graduation from USNTPS,the CPS-NTPS graduates will be awarded a master's degree.

All army aviators selected for the Army aviation experimental test pilot training program will incur a service obligation of four years under the provisions of AR 350-100, irrespective of course completion.

USNTPS graduates' utilization assignments will be based on the needs of aviation technical test center (ATTC). Initial tours will be served at the ATTC's test directorate at Fort Rucker, AL. USNTPS graduates will serve in experimental test pilot or organizational staff positions that directly affect the type,design,and configuration of Army aircraft.

Applicants for the XP training program must submit an application to: Commander, TAPC, ATTN: TAPC-OPB-E, 200 Stovall Street, Alexandria, VA 22332-0411. An official transcript of college credits and a copy of the aviator's most current DA Form 759 must accompany the application. Applicants who desire to attend the CPS-NTPS program will also submit a DA Form 1618-R IAW AR 621-1. Personnel in a position to recommend and endorse applicants are urged to make a thorough appraisal of the applicant's flying ability, operational experience,motivation,adaptability, and ability to communicate orally and in writing. All applicants must also be endorsed by an instructor pilot/standardization instructor pilot who will comment on the applicant's flying ability. This endorsement will be added as an enclosure to the aviator's application packet.

For additional questions or a sample memo of how to apply for the XTP program, contact Latesha Smith at commercial (703)325-2757 or DSN 221-2757, or CPT Bob Marion, DSN 221-2800; commercial (703)325-2800.

Clues to Preparing Your File for a DA Board

Any acquisition professional today has multiple requirements to meet in any 24-hour period. These requirements are usually costly and consequently quickly absorb all our time and energy. They become our priorities. If, however, you are in the "zone of consideration" for a board, your board preparation should become one of your "top"priorities. You closely manage the responsibilities you are tasked with on the job. Should you not manage your file in the same manner for an upcoming board? As far as your interests are concerned, no one will watch out for them better than you.

So, what should one do to best prepare for a military board? There are many things to check,and,like our seasonal schedule,if we did not make a list, we would likely forget an important item. The following list of items and descriptions/instructions is provided as a suggested "guide"which can be used as you prepare your file. Each of these bullets addresses one of the three parts of your board file: photo, Officer Record Brief (ORB), and micro-fiche.

Photo

• Current to within 5 years of the board. We suggest however, that a new photo be taken whenever there is a major change such as promotion, award etc.

• Color. There is no excuse for a file which contains a black and white photo. Currently, even though the new digitized photo format has been approved,there is nothing wrong with the older, full-length,color shot. The digitized photo will not become the mandatory format until all photo labs are fielded with the equipment. Until such time, either is completely acceptable. The key is color!

• Appearance. Each board member only realistically has some 90 seconds to access any given file. First impressions really do count. The best way to present a good "first"impression is to have a sharp photo. Scrutinize your latest photo for such things as: all buttons buttoned, name tag on uniform, awards in right order of sequence,branch insignia under your U.S.insignia,wrinkles in sleeves and/or pants, uniform is your size, shoes polished, soles are clean and not in need of edge dressing, no jewelry other than wedding band, clean-shaven, good haircut just to name a few of the more common errors. After looking at your photo with this "critical eye" decide if you are really proud of the photo. Would you be embarrassed to show it to someone else? Does it represent you for who you really are? Do you want it to be your representative before a board of some 18 or more officers? If you cannot answer these questions positively, then you probably need to take the time and have another taken.

• Nameboard. Does the first line list your name as last name, first name,middle initial? Is it spelled correctly? Does the second line display your rank and your basic branch? You should always place your basic branch abbreviation and not AC for Acquisition Corps.

• Lastly, does the third line show the date the photo was taken (not your birthdate) in year, month, day (YYMMDD) format?

Some of the items listed above seem to be rather mundane and ordinary. However, we still receive photos that have problems in these areas. Just take a few extra moments and give your photo a good once over. Remember, if you don't, somebody else definitely will.

Officer Record Brief

The ORB represents a road map through your career. It, like an atlas, quickly becomes obsolete if not periodically updated. If it is not corrected, of what use is it? Your assignment officer at PERSCOM can correct some items on your ORB. It is not however, their responsibility to input the changes. Each installation has a Personnel Service Center (PSC) which is better staffed to input any changes you might have. Basic rule is to first give your PSC the opportunity to update your information. If, in an emergency situation the PSC is unable to complete the transaction, then give your assignment officer a call. He or she might be able to fix your problem.

When reviewing your ORB,one might want to focus on the following:

• Ensure your mailing address is correct. This is not so much important for a board as it is for your assignment officer.

• Check to see that all of your awards are posted with the correct number of oak leaf clusters.

• Review your duty titles. Do they match what is printed on your OERs?

• Check double entries. Perhaps two entries could be combined into one.

• Examine the through dates. Do these match the time periods expressed on your OERs?

• Check to see that the date last physical and date last photo are correct. Again,photo should be within five years,and the physical should be within five.

• Are your recently completed military schools displayed? Are the completion dates correct?

• How about your civilian education. Is your highest degree present?

This list is by no means exhaustive. If one takes the time to inspect their ORB closely, they will quickly know what needs to be corrected. Invest the time.

Micro-fiche

The Micro-fiche is the last of the three items included in your file as it goes before any board. Even though it is covered last,it is no less important. Think of your fiche as your career X-ray. Ensure it is correct so the proper "picture"can be seen. One should look for the following:

• First of all ensure that all of your documents are displayed. Second,ensure that no one else's records have found their way into your fiche.

• Ensure that all OER's are in the proper chronological sequence. Review the ending and beginning dates off of each and compare them to the previous and following reports. Look for periods of excessive, unexplained non-rated time.

• Look for all awards. One should have either the certificate or the actual orders for each award. If the certificate has an orders number near the lower left corner, it is all that is needed. It represents both the certificate and order.

• Check to see that all documents are legible. Some may appear "grainy," but should still be legible.

Reviewing a fiche is really not that time consuming. Many times it's more difficult just trying the find the actual viewer. Again,however, if you take the time,it will not be wasted. Should you need a new copy of your fiche you can fax a request to DSN 221-5204 or commercial (703)325-5204. Ensure that you request what type of fiche you need (service or restricted),include your social security number and be sure to sign the bottom of the request.

Everything discussed serves only as suggestions in getting your file ready for a board. Your assignment officer will follow some of the same procedures/guidelines outlined above in reviewing your file before any board. They are all dedicated professionals who strive to ensure that your file is as clean as possible before it is handed over to the DA Secretariat who administers all DA boards. Your assignment officer has hundreds of files to review. You have only one. As you get in the habit of checking your file,you will find that very little will change. It will only require periodic maintenance. It is hoped that these short "check"lists will provide a quick and easy reference towards "tuning"your record in preparation for your next DA board.

UPCOMING BOARDS

Colonel	Aug 12 - Sep 3, 1997
Lieutenant Colonel	Feb 4-28, 1997
Major	Mar 18 - Apr 18, 1997
Colonel Project Manager	Jan 7-16, 1997
LTC Product Manager	Dec 10-20, 1997
Test Pilot	Mar 11-14, 1997
AAC Accession Board	Mar 4-7, 1997

Acquisition Corps FY 96 Resident Command And Staff College Selection Results

Selected: 55
Revalidated: 77

SELECTION STATISTICS FOR SELECTED OFFICERS

Year Group	Source of Commission	Sex	Redcat
83 - 3	USMA - 14	Male - 49	White - 44
84 - 4	ROTC - 32	Female - 6	Black - 7
85 - 22	OCS - 9		Hispanic - 1
86 - 19			Asian Pac - 2
87 - 7			Other - 1

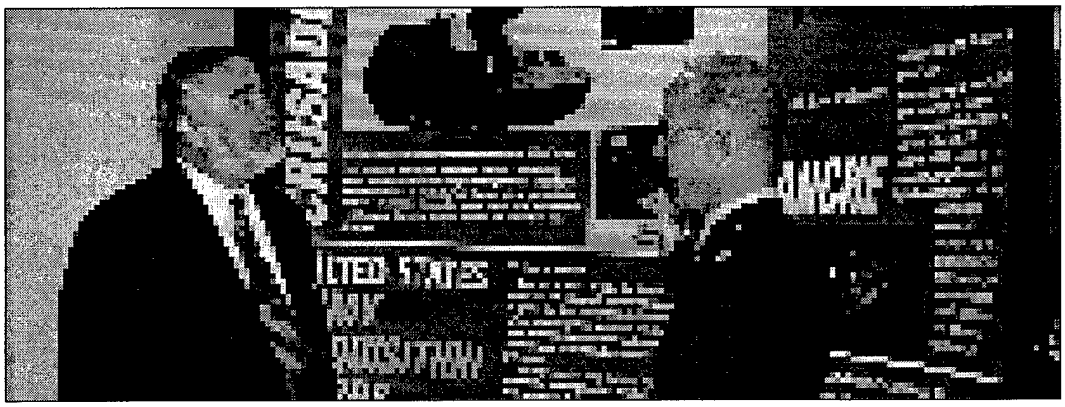
Functional Area	Basic Branch		Age
51 - 34	Infantry	- 6	Oldest - 41
53 - 11	Armor	- 1	Youngest - 31
97 - 10	Field Artillery	- 2	Mean Age - 34
	Aviation	- 10	
	Special Forces	- 3	
	Engineer	- 2	
	Signal Corps	- 11	
	Military Police	- 2	
	Military Intelligence	- 3	
	Adjutant General	- 4	
	Transportation Corps	- 2	
	Ordnance Corps	- 5	
	Quartermaster Corps	- 4	

Year Group CSC Selection Status

Year Group	Pop	Tot to Sel	% to Sel	Prev Sel	FY96 Sel	Cur Tot	To Sel	Cur % Sel	FY97 Sel	FY98 Sel	FY99 Sel
					FA 51						
1983	103	56	54.4%	55	1	56	0	100%	0	0	0
1984	84	44	52.4%	42	1	43	1	97.7%	1	0	0
1985	83	39	47.0%	19	15	34	5	87.2%	4	1	0
1986	62	30	48.4%	2	12	14	16	46.7%	11	4	1
					FA 53						
1983	30	16	53.3%	15	1	16	0	100%	0	0	0
1984	29	14	48.3%	12	1	13	1	92.9%	1	0	0
1985	27	13	48.1%	6	4	10	3	76.9%	2	1	0
1986	22	10	45.5%	1	4	5	5	50%	3	1	0
					FA 97						
1983	37	20	54.1%	19	1	20	0	100%	0	0	0
1984	41	19	46.3%	17	1	18	1	94.7%	1	0	0
1985	30	14	46.7%	8	3	11	3	78.6%	2	1	0
1986	19	9	47.4%	1	3	4	5	44.4%	3	1	0

Command and Staff College Slating

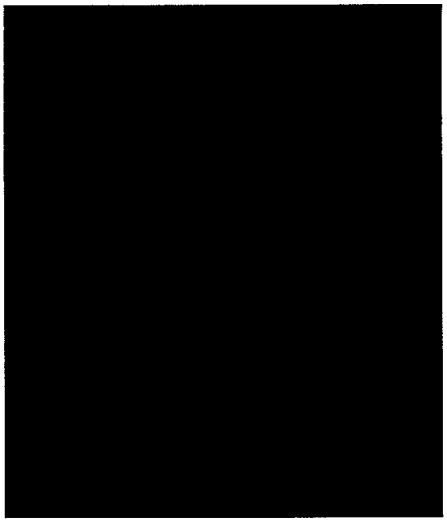
The Military Acquisition Management Branch (MAMB) began Command and Staff College (CSC) slating in October 1996 and should complete slating by early January 1997. In addition to the 55 Army Acquisition Corps (AAC) officers selected by the FY 96 board, there are 75 officers on the deferred CSC list. Allocations for seats in 1997 have not been distributed. Based on last year's allocations, MAMB anticipates a total of about 94 seats for the eligible population of 130 officers. It is recommended that officers who desire to attend a sister Service college (Air Force,Navy) complete all phases of the non-resident staff college to be most competitive. To request a sister school, submit a memorandum to MAJ Jake Hansen at the following address: U.S. TOTAL ARMY PERSONNEL COMMAND, TAPC-OPB-E ATTN:(MAJ JAKE HANSEN), 200 STOVALL STREET, ALEXANDRIA, VA 22332-0411. Include sufficient justification as to why you should be considered for the school you desire. Attendance at a sister Service school is highly competitive. Last year, the Corps received two seats for Navy, seven seats for Air Force and one seat for the Marine Corps.



Assistant Secretary of the Army(RDA) Gilbert F. Decker(left) converses with MAJ Pete Olstrom.

Deputy Director of the Army Acquisition Corps Keith Charles (right) views the AAC interactive video. John Corsello is shown left.

Program representatives shown left to right are MAJ Pete Olstrom, MAJ Gregory Oelberg, Celeste Smith and SFC Jim Logan.



The Army Acquisition Corps A U S A display.

Army Acquisition Corps Display at AUSA

The Association of the U.S.Army's (AUSA) annual meeting was held Oct. 14-16, 1996, in Washington, DC. The Army Acquisition Corps (AAC) had an opportunity to publicize its crucial role in Army acquisition by displaying an exhibit, "Developing the People Who Develop the Systems." The highlight of the exhibit is an interactive video, which presents four Army programs (Comanche, Apache, Javelin and Crusader) with four components: the AAC role in the program, weapon system need, weapon system results, and a three-dimensional view. The video is introduced by LTG Ronald V. Hite, Director, AAC, who presents the importance of the AAC role in Army acquisition programs.

AAC information brochures, the new Civilian Playbook, the June 1996 Military Playbook, and Army RD&A magazine, available at the display, publicized the AAC vision and initiatives to improve the quality of the acquisition workforce.

Representatives from the Acquisition Career Management Office, Office of the Assistant Secretary of the Army (Research, Development and Acquisition) (ASA(RDA)), as well as representatives from the highlighted system program offices were available throughout the AUSA conference to answer questions,provide information,and to guide the many interested guests throughout the interactive video presentation. Program representatives included Celeste Smith from the Comanche program,SFC Jim Logan representing the Javelin program, John Corsello and MAJ Pete Olstrom from the Crusader program, and MAJ Gregory Oelberg from the Apache program.

The Hon. Gilbert F. Decker, ASA(RDA), was among the many distinguished visitors to the exhibit during the AUSA conference.

The AAC exhibit was displayed in the Pentagon following the AUSA conference for two weeks, where it was viewed by Hon.R.Noel Longuemare,Principal Deputy Under Secretary of Defense (Acquisition and Technology).

The Research Act: A Theoretical Introduction To Sociological Methods

By Norman K. Denzin, Prentice Hall, Englewood Cliffs, NJ 1989

Reviewed by Sheryl Ann Turner, Quality Assurance Specialist, U.S. Army Yuma Proving Ground Quality Assurance Office.

The sociological discipline rests on these elements: theory, methodology, research activity, and the sociological imagination.Theory is interpretation. It gives order and insight to what is, or can be observed. Methodology represents the principle ways in which sociologists act on their environment. Methods,comprised of experiments,surveys, and life histories,lead to different features of a sociologist's reality. It is through the sociologist's methods that they make their research public and reproducible by others.

In the book, The Research Act:A Theoretical Introduction to Sociological Methods, by Norman K. Denzin, the author discusses a variety of methods used by sociologists during their research activity. Methods vary depending on the topic being researched and Denzin insists that there is no "one right method" to be used during the research act. Instead, says Denzin, triangulation (or a combination of different methods) is the best way for a researcher to complete his or her project.

Keeping an open mind during the research act is vital for sociologists. Usually, when a topic is researched, secondary data is discovered which influences interpretations of the primary infomation. Although the same facts and analysis may be used by the new researcher, it is not unlikely that the new researcher could come to a different analysis than his or her predecessors. All researchers are individuals with imaginations and their own sense of reality. It is these differences that allow each person to view the same information in a different way.

Communication and interaction with others is another vital element for sociologists to be aware of during the research act. Symbols, words, meanings, and language can all mean different things to different people. Becoming familiar with the group or information that is being researched is essential for a researcher to be able to investigate his or her topic and analyze the data accurately. Just as each researcher has his or her own personality, so do the individuals or groups being researched. Knowing the best method to use for investigation is key to a researcher's success in discovery and interpretation.

One problem facing researchers,whether they are sociologists or scientists, is funding or lack thereof. Govemment grants are available for certain topics, however, the problem for researchers arises when they are not interested in those topics, or worse, they have a different opinion of the topic than perhaps their funding agency would like. Defining a topic and then investigating it may seem easy. However, Denzin reminds his readers that social situations are always changing. A social topic of great importance today may not be so important tomorrow.

Being careful not to let value decisions influence a research act is another factor influencing a researcher's analysis. During an investigation it is essential that a researcher be objective as he or she analyzes and develops a theory, and finally a hypothesis,without imposing his or her own values. Implementing a value system other than that of the group being researched taints the data and does nothing but skew any data being collected.

Writing social science involves learning how to think,talk, and write in a new language. The meaning of words such as role, status, system, function, process, and self must be learned. It involves becoming familiar with different types of research methods and determining for one's self the best method to use in specific investigations. The style of writing and the method of research is an individual choice for individual researchers with individual imaginations.

Acquisition Reform Strategic Planning

Our vision for acquisition reform is:

> An empowered acquisition workforce that continuously innovates and improves processes to get the latest and best technology, goods and services, on time and at the lowest cost for our soldiers.

This vision is supported by four basic values, which are:

- Provide the warfighter what is needed, when it is needed, at the best available price;
- Preserve the public trust in the acquisition system by exercising good judgment and adhering to the highest standards of honesty and professionalism.
- Preserve America's global economic leadership by nurturing a vital, free, technologically superior national industrial base; and
- Preserve our military technological superiority while increasing the exploitation of commercial technologies and encouraging continuous, constant innovation.

The essential first step to effective acquisition reform is the development and promulgation of a sound strategy. The overarching Army acquisition reform strategy is:

> to empower acquisition professionals to continuously find smarter ways of doing business; empower them to buy better goods and services cheaper and faster; and field a technologically superior Army XXI on time with reduced costs of ownership

This strategy, which has been developed and was disseminated in a brochure during August 1996, consists of eight strategic goals and each goal has supporting objectives. The strategic goals are:

- define desired outcomes;
- remove barriers to business judgment;
- provide acquisition reform tools;
- streamline processes;
- reduce overhead;
- empower individuals to use their own judgment for business decisions;
- put metrics in place to measure progress; and
- manage for end results.

This strategy is predicated on implementation at the lowest organizational levels for those who must plan, implement and measure results against the planned objectives.

To this end, Gilbert F. Decker, the Army Acquisition Executive, approved the "Guidelines for Army Acquisition Reform Strategic Planning" in September 1996 to provide guidance for strategic planning to implement the Army acquisition reform strategy. The guidelines were disseminated throughout the acquisition chain of command and require each acquisition organization to conduct strategic planning tailored to its own organizational culture and customer needs. This means each organization will define its own outcomes, identify the appropriate acquisition reform tools, and establish metrics to measure progress. The product of this process is an organizational Acquisition Reform Improvement Plan. Each acquisition organization should have its Acquisition Reform Improvement Plan on its Acquisition Reform Home Page by January 1997. Following this, each organization should start using their metrics to measure progress by March 1997 and begin to document their "best practices" and "lessons learned" in April and May 1997 respectively.

The Army Is Charging Ahead

Reengineering The Procurement Process

The Army reengineered its procurement process by delegating procurement authority for low-cost services and supplies down to user organizations. The delegation empowers non-contracting individuals by giving them the authority to make purchases of $2,500 and below with a VISA purchase card. By empowering procurement and non-procurement personnel to buy supplies and services within the micro-purchase threshold ($2,500), we have been able to leverage our diminishing resources and increase efficiencies. The results of our efforts are

reduced paperwork, prompt receipt of supplies, and reduced numbers of invoices for payment.

Largest User Of The Card

The Army has been recognized by the General Services Administration as the largest user of the International Merchant Purchase Authorization Card (IMPAC) within the federal government. More than 36,000 purchase cards have been issued to Army soldiers and civilians. During fiscal year 1996,these cardholders made 1.6 million purchases totaling $740 million. (See accompanying figures.)

These statistics reveal a 529 and 387 percent growth in card purchases and sales, respectively, over the last two years.

The rapid increase in the last two years can be attributed to several things. First,the Federal Acquisition Streamlining Act of 1994 acted as a catalyst to the Army's reengineering effort by eliminating the requirement for contract provisions and clauses and identifying the card as the preferred Simplified Acquisition Procedure for purchases valued at and below $2,500. Secondly, we made the card a priority acquisition reform initiative by having the Army Chief of Staff establish a goal of obtaining 80 percent of FY96 micro-purchases with the purchase card. Lastly, to facilitate increased use of the card by cardholders and maximize efficiencies, we reengineered and streamlined business practices in the contracting, logistics,base operations,and resource management functional areas. The card is now the preferred method of obtaining goods and services by the user organizations within the Army.

Quicker Delivery At A Reduced Cost

Using the purchase card gets goods and services into the hands of Army soldiers and civilians faster, cheaper, and easier than using the old purchase order method. Requesting organizations no longer have to wait several weeks for their supplies. With the purchase card they can order and receive goods and services usually within days. Findings of the Army Audit Agency indicate that using purchase cards is 60 percent cheaper than using purchase orders. While the largest percentage of savings occurred in the contracting offices (46 percent),significant savings were also realized in the supply (22 percent), budget (19 percent), and requesting (12 percent) organizations.

Additional Uses Of The Purchase Card

The Army is continually exploring ways to use the card in business processes other than purchasing. The card is being used on a selective basis as a means of payment against existing contracts and purchase orders. Additionally, the Army is attempting to introduce the card into the Inter/Intra Department Funds Transfer process. Rather than sending a Military Interdepartmental Purchase Request,in the future, the Army might be providing a purchase card number over the phone.Given these initiatives, we expect continued growth in the card program.

Secret To Army's Success

The success we have achieved in this program is a tribute to the commitment made by Army personnel at all levels to acquisition reform. Given the opportunity, Army soldiers and civilians will perform their responsibilities more efficiently and effectively. The secret is—giving our people the opportunity.

Single Process Initiative (SPI) Guidebook

The Army SPI guidebook, published September 1996, provides Army SPI participants a comprehensive understanding of the SPI,to include the latest policy guidance,an overview of the process,and lessons learned based on participation of Army personnel that have been involved in the process. It provides "how-to" information for both Army Component Team Leaders and others in the Army community involved in the SPI process to ensure their participation is both proactive and effective. If you have questions or need copies of the guidebook, contact the Army Program Coordinator, Marilyn Harris-Harpe, at DSN 761-7561, commercial (703)681-7561 or email, harrism@sarda.army.mil.

Forging Industry Study Shows Little Risk From DFARS Change

DOD recently removed domestic restrictions for all Army related forgings from the Defense Federal Acquisition Regulation Supplement (DFARS) in support of reforming acquisition. A large number of forging suppliers protested when this change was first proposed,arguing that it would cause serious problems for DOD. Two previous Commerce studies had documented first a decline and then more recently, a rebound in U.S.capability. To address the industry protests, we chartered the Defense Contract Management Command's Industrial Analysis Support Office (IASO) to review industry contentions. IASO recently completed their study and concluded very low-risk results from rescinding the restrictions. The point of contact at IASO is Dennis McKnight, DSN 444-5436.

Industrial Operations Command Capitalizes On Empowerment

Headquarters, U.S.Army Industrial Operations Command capitalized on recent changes for government property accountability. In July 1996, the Director of Defense Procurement, Eleanor R. Spector, authorized military departments to deviate from overly burdensome Federal Acquisition Regulation (FAR) requirements in Part 45 for low-value government property. This class deviation reduces property recordkeeping and periodic physical inventory requirements for low-value property, which is defined as special tooling, special test equipment and plant equipment with an acquisition cost of $1,500 or less and permits contractors to defer reporting the loss, damage or destruction of low-value property until contract termination or completion. In taking advantage of this class deviation, the Deputy Chief of Staff for Installation Support conducted negotiations on several existing contracts with government and contractor representatives from the Iowa Army Ammunition Plant, generating first-year savings of $189,000 and annual cost savings of $187,000. The "class deviation"from the FAR (Part 45) can be found on the Army Acquisition Website on the Army Acquisition Newsletter Notes Page at http://acqnet.sarda.army.mil.

For additional information on these articles, contact LTC L. Hooks on (703)697-2558 or e-mail: hooksl@sarda.army.mil.

MG Ellis Named New Assistant DCSPER

MG Larry R.Ellis is the new Assistant Deputy Chief of Staff for Personnel in the Office of the Deputy Chief of Staff for Personnel (DCSPER), HQ, Department of the Army. He succeeds LTG Frederick E. Vollrath who has taken over as the DCSPER following the retirement of LTG Theodore G. Stroup Jr. MG Ellis previously served as the Assistant Chief of Staff, C-3/J-3/G-3 at the United Nations Command/Combined Forces Command, U.S. Forces Korea/Eighth United States Army.

Backed by more than 27 years of active military service, MG Ellis served earlier tours as Assistant Division Commander, 2d Infantry Division, Eighth United States Army, Korea; Deputy Director for Strategic Planning and Policy (J-5), United States Pacific Command, Camp H.M. Smith, HI; and Deputy Director, Military Personnel Management, Office of the Deputy Chief of Staff for Personnel, HQ, Department of the Army.

He holds a B.S. degree in physical education from Morgan State University and an M.S. degree in physical education from Indiana University. In addition, he has completed the U.S.Army War College, the Armed Forces Staff College, and the Infantry Officer Basic and Advanced Courses.

MG Ellis is a recipient of the Defense Superior Service Medal, Legion of Merit (with two Oak Leaf Clusters),Bronze Star Medal, Meritorious Service Medal (with two Oak Leaf Clusters), Air Medal, Army Commendation Medal (with Oak Leaf Cluster), Combat Infantryman Badge, Senior Parachutist Badge, and the Army Staff Identification Badge.

Army RD&A Magazine Distribution

Army RD&A magazine is currently distributed to both military and civilian members of the Army Acquisition Corps (AAC), to AAC Corps Eligible personnel,to AAC Reservists, to numerous civilian personnel offices, and many other individuals and organizations throughout the acquisition community. Despite this broad-ranging list of recipients—comprising some 30,000-plus copies of the magazine—we are not content! Many other individuals should also be on our distribution. As such, in an effort to enhance distribution of the magazine to "get the word out" to those folks who are not currently receiving the publication, we are evaluating the feasibility of sending the magazine to others in the acquisition community, induding the Army Acquisition Workforce. We must caution, however, that this effort may take some time. In the interim though, please note that Army RD&A is available on the worldwide web by accessing the AAC Homepage at http://dacm.sarda.army.mil. Go to Publications, and click on Army RD&A.

Army RD&A is now available on the worldwide web at: http://dacm.sarda.army.mil

Gilman Receives Battery Division Technology Award

Dr. Sol Gilman, Chief of the Electro-Chemistry Branch of the Sensors and Electron Devices Directorate, Army Research Laboratory (ARL), received the Technology Award of the Battery Division, Electrochemical Society Inc. late last year. Gilman was recognized for his work on various lithium battery programs that led to the development and fielding of lithium batteries by the U.S.Army. The award was presented to him at the Electrochemical Society's 190th International Meeting in October 1996.

Gilman holds a B.S.in chemistry from New York University and a Ph.D. in physical chemistry from Syracuse University. Affiliated with ARL since 1970,he heads a group of scientists researching and developing batteries, fuel cells, capacitors, and other energy storage devices. Gilman is also the author of more than 70 publications and patents on fuel cells and batteries.

52 Graduate From MAM

Fifty-two students graduated from the Materiel Acquisition Management (MAM) Course, Class 96-004, at the U.S.Army Logistics Management College, Fort Lee, VA. The graduates included foreign officers from Turkey, Malaysia, Korea, Mongolia and Poland.

Research and development, testing, contracting, requirements generation, logistics and production management are examples of the materiel acquisition work assignments being offered to these graduates.

The Distinguished Graduate Award was presented to CPT Edward Langwinski, Test and Experimentation Command, Fort Hood,TX.

The seven-week MAM Course provides a broad knowledge of the materiel acquisition function. It covers national policies and objectives that shape the acquisition process and the implementation of these policies and objectives by the U.S.Army. Emphasis is placed on developing mid-level managers so they can effectively participate in the management of the acquisition process.